

**CD Stereo System**

**CD 立体音响组合**

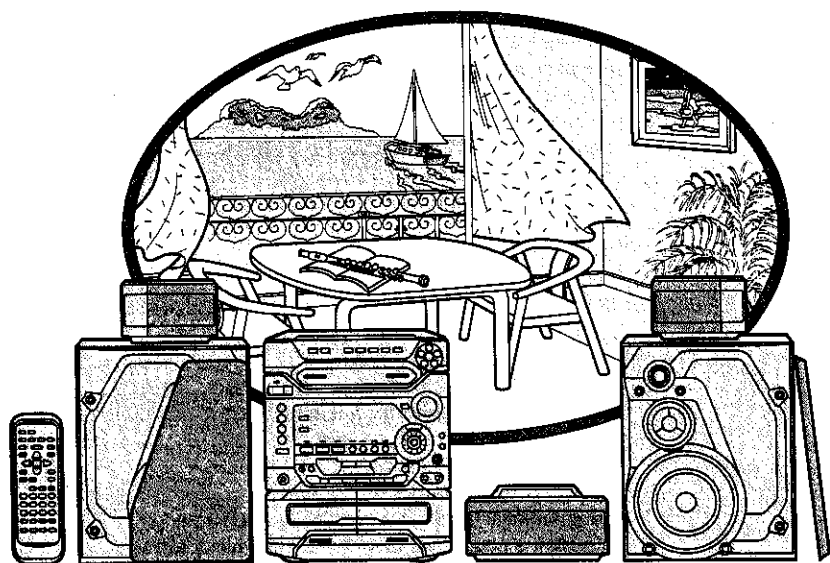
**نظام إسطوانة مدمجة إستريوي**

**SC-AK57**

**Operating Instructions**

**使用说明书**

**ارشادات التشغيل**



**Panasonic®**

Before connecting, operating or adjusting this product, please read these instructions completely. Please save this manual.

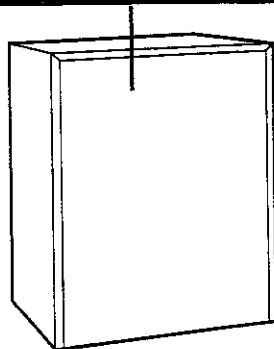
连接、操作或调节本产品之前，请仔细阅读下列说明，并妥善保管本手册。

يرجى قراءة هذه الارشادات بأكملها قبل توصيل أو تشغيل أو ضبط هذا الجهاز.  
يرجى الاحتفاظ بهذا الكتيب.

**COMPACT**  
**disc**  
**DIGITAL AUDIO**

GC

RQT4808-G



DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING. NÅR SIKKERHEDSÅBRYDERE ER I LØBE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	AVATTAESSA JA SUOJALUKITUS OHTETTAESSA OLET ALTITINA NÄKYMÄTÖNTÄ LASERSÄTEILYLLÄ. ÄLÄ KATSO SÄTEESEEN.
VARNING	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR I RIKOPPLAD. BETRÄKTA EJ STRÅLEN.
ADVARSEL	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNDGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	UNSIICHTBARE LASERSTRÄHLUNG. WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

(Inside of product)  
(Indersiden af apparatet)  
(Tuotteen sisällä)  
(Apparatens insida)  
(Produktets innsida)  
(Im Inneren des Gerätes)

## Dear customer

Thank you for purchasing this product.  
For optimum performance and safety, please read these instructions carefully.

These operating instructions are applicable to the following system.

System		SC-AK57
Main unit		SA-AK57
Speakers	Front	SB-AK57
	Surround	SB-PS70
	Center	SB-PC70

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### Supplied accessories

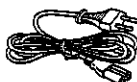
提供附件  
المرفقات المرفقة



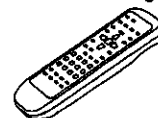
Please check and identify the supplied accessories.

请检查 and 确认提供的附件。  
يرجى التحقق وتمييز الملحقات المرفقة.

☐ AC power supply cord ..... 1 pc.  
AC 电源线 ..... 1 件  
كابل تجهيز التيار المتردد ..... قطعة واحدة



☐ Remote control transmitter ..... 1 pc.  
遥控器 ..... 1 件  
مرسلة مسيطر التحكم عن بعد  
..... قطعة واحدة



☐ Remote control batteries ..... 2 pc.  
遥控器电池 ..... 2 件  
لاريات مسيطر التحكم عن بعد  
..... قطعتان



## Suggestions for safety

### Placement

Avoid placing the unit in areas of:

- direct sunlight
- high temperature
- high humidity
- excessive vibration
- uneven surfaces (Place the unit on a flat level surface.)

Such conditions might damage the cabinet and/or other component parts and thereby shorten the unit's service life.

To protect the unit against sound distortion and acoustical effects, please place the unit at least 15 cm away from wall surfaces etc.

### Stacking

Never place heavy items on top of the unit or the AC power cord.

### Voltage

- It is very dangerous to use an AC power source of high voltage such as for an air conditioner.  
A fire might be caused by such a connection.
- A DC power source can not be used.  
Be sure to check the power source carefully, especially if on a ship or other place where DC is used.

### Power cord protection

- Avoid cuts, scratches or poor connection of the AC power cord, as this may result in fire or electric shock.  
Excessive bending, pulling or slicing of the cord should also be avoided.
- Do not pull on the cord when you are disconnecting the power, as this could cause an electric shock. Grasp the plug firmly when you disconnect the power supply.
- Never touch the plug with wet hands or a serious electric shock could result.

### Foreign materials

- Ensure that no foreign objects, such as needles, coins, screwdrivers etc., accidentally fall into the unit.  
Otherwise, a serious electric shock or malfunction could occur.
- Be extremely careful about spilling water or liquid on/into the unit, as a fire or electric shock could occur.  
(Disconnect the power plug and contact your dealer immediately if this occurs.)
- Avoid spraying insecticides onto the unit as they contain flammable gases which can be ignited.
- Insecticides, alcohol, paint thinner and similar chemicals should never be used to clean the unit as they can cause flaking or cloudiness to the cabinet finish.

### Service

- Never attempt to repair, disassemble or reconstruct the unit if there seems to be a problem.  
A serious electric shock could result if you ignore this precautionary measure.
- If a problem occurs during operation (the sound is interrupted, indicators fail to light up, smoke is detected, etc.) contact your dealer or Authorized Service Center immediately.
- Disconnect the power supply if the unit will not be used for a long time. Otherwise the operation life could be shortened.

### CAUTION!

THIS PRODUCT UTILIZES A LASER. USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE. DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

### CAUTION!

DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT IN CABINET OR IN ANOTHER CONFINED SPACE IN ORDER TO KEEP WELL VENTILATED CONDITION. ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION CONDITION TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING.

### CAUTION:

The AC voltage is different according to the area.  
Be sure to set the proper voltage in your area before use.  
(For details, please refer to page 12.)

## 安全建议

### 放置

避免将本机放置在下列场所：

- 直射阳光
- 高温
- 高湿
- 过度振动
- 不平表面（请将本机放置在平坦的水平表面。）

这些条件会损坏机壳和/或机件，并且会缩短本机的使用寿命。

为了使本机免受声音失真和共振的影响，放置本机时，请至少离开墙面等 15cm 以上。

### 叠放

勿在本机顶部或 AC 电源线上放置重物。

### 电压

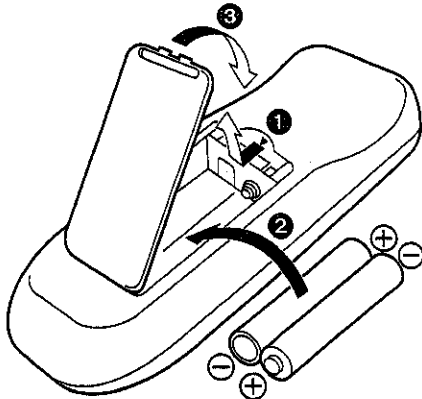
- 使用如空调机等所用的高压 AC 电源，是非常危险的。  
进行这样的连接，可能会引起火灾。
- 不能使用 DC 电源。  
必须仔细检查电源，尤其是在船舶或其他使用 DC 电源之处。

### 电源线保护

- 避免切割、划伤或不良连接 AC 电源线，否则可能引起火灾或触电事故。  
也应避免过分用力弯曲、拉扯或割切电源线。
- 切断电源时，勿拉扯电源线，否则会引起触电。拔出电源线时要紧紧地握住插头。
- 千万勿使用湿手触摸插头，否则会导致严重的触电。

## Concerning the remote control

**A**



Ⓐ R6, AA size, UM-3

Ⓑ Insert the batteries observing the correct polarities (+, -).

### Battery installation

**A**

#### Use of batteries

- Do not mix old and new batteries, or batteries of different types (manganese and alkaline, etc.).
- Never subject batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
- If the remote control is not to be used for a long period of time, remove the batteries and store them in a cool, dark place.
- Do not attempt to recharge alkaline or manganese batteries.
- Do not use rechargeable type batteries.

#### Battery life

The battery life is about one year.

The batteries should be replaced if commands from the remote control transmitter do not operate the unit even when the transmitter is held close to the front panel.

### Correct method of use

**B**

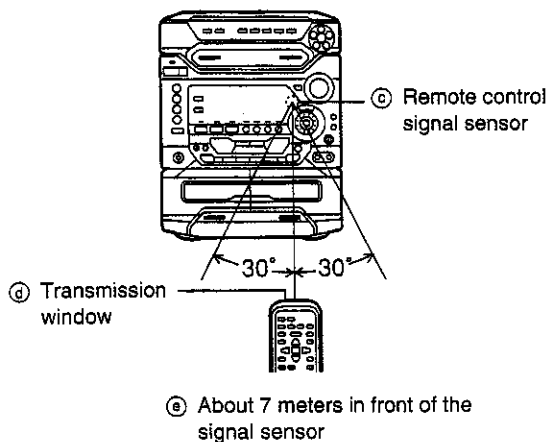
#### Operation notes

- Do not place obstacles between the remote control signal sensor and remote control unit.
- Do not expose the remote control signal sensor to direct sunlight or to the bright light of an inverter fluorescent light.
- Take care to keep the remote control signal sensor and end of the remote control unit free from dust.
- If this system is installed in a rack with glass doors, the glass doors' thickness or color might make it necessary to use the remote control a shorter distance from the system.

#### To prevent damage

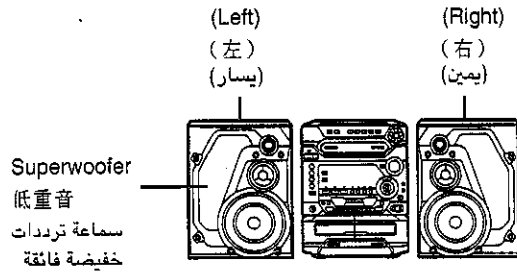
- Never place heavy items on top of the unit.
- Do not disassemble or reconstruct the unit.
- Do not spill water or other liquids into the unit.

**B**



## Placement of speakers

**A**



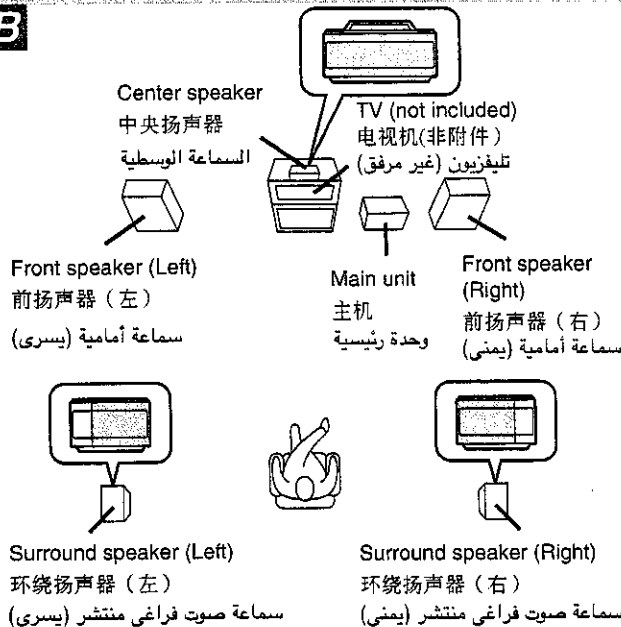
### Placement of front speakers

Place the speakers so that the superwoofer is on the outside. **A**

#### Note

- Keep your speakers at least 10 mm away from the system for proper ventilation.
- To avoid damage to the speakers, do not touch the speaker cones if you have taken the nets off.

**B**



### Placement of center/surround speakers

#### Center speaker

Place the center speaker above your TV, as close to it TV as possible.

#### Surround speakers

As well as enjoying normal stereo reproduction with the left and right front speakers, surround speakers can also be connected to the system in order to enjoy a feeling of depth and movement of sound.

Place the speakers with the Panasonic logo facing toward the listening position.

We recommend that surround speakers be placed on the side of or slightly behind the listener at ear level.

However, the position should be adjusted to your personal preference, because the effect varies to some degree depending upon the type of music and the music source.

#### Attaching to a wall **C**

Set speaker onto screws and slide through bracket to lock into position.

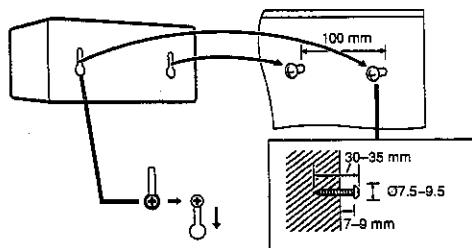
#### Note

The wall or pillar on which the speaker systems are to be attached should be capable of supporting a weight of 5 kg.

#### Caution

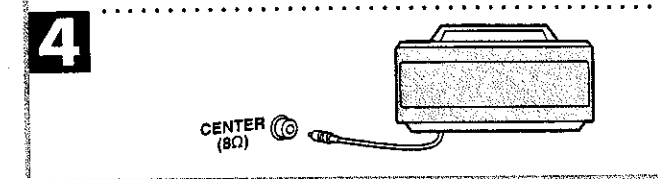
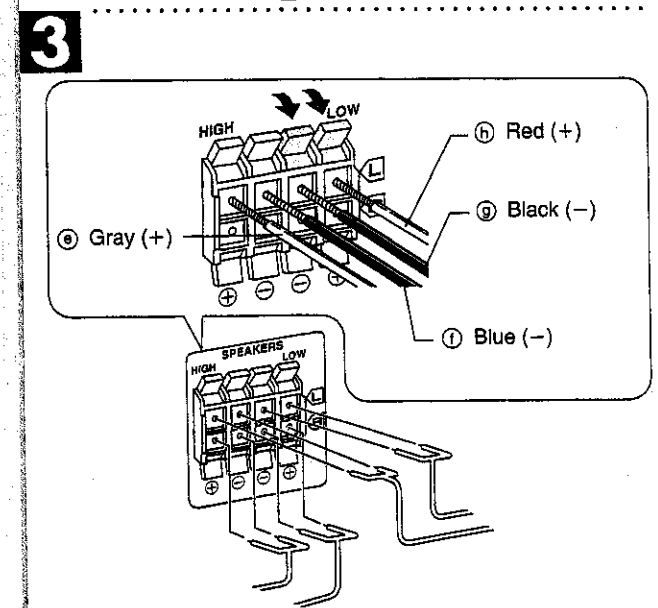
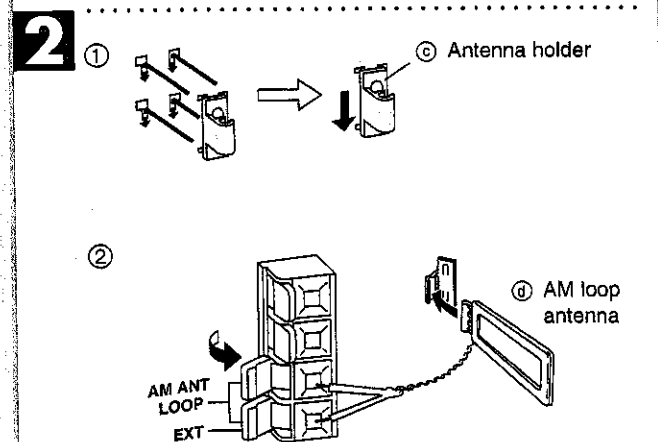
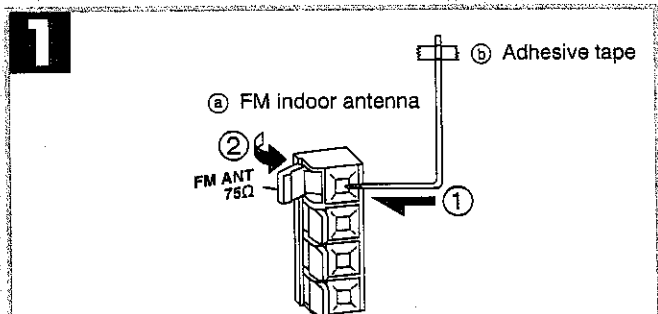
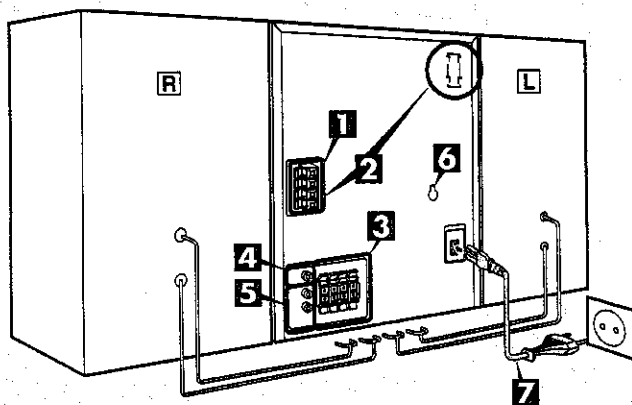
- Use the speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speakers, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.
- Do not attempt to attach these speakers to walls using methods other than those described in this manual.

**C**



#### Note

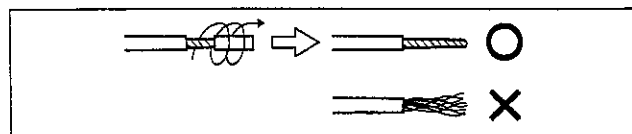
The speakers are made so they can be used in close proximity of a TV, but irregular coloring may result due to how the system is placed. If such distortion occurs, turn off the TV for between 15 and 30 minutes. The demagnetizing function of the TV will eliminate the distortion. If the irregular coloring is still visible, when the TV is turned on again move the speakers further away from the TV.



## Connections

### Basic connections (for supplied accessories)

- Plug the AC power cord into a household AC outlet only after all other connections have been made.
- To prepare the antenna wires and speaker cords, twist the vinyl cover tip and pull off.



#### 1 Connect the FM indoor antenna.

Tape the antenna to a wall or column, in a position where radio signals are received with the least amount of interference.

##### Note

For best reception:

An FM outdoor antenna is recommended. (→ page 14.)

#### 2 Connect the AM loop antenna.

After attaching the antenna, turn on the system and tune in a broadcast station. Then, turn the antenna to the angle of best reception and least interference.

#### 3 Connect the front speakers.

Connect each end of the speaker cables to the terminal levers of the same color.

##### Use only the supplied front speakers.

The combination of the main unit and front speakers provide the best sound. Using other front speakers can damage the unit and sound quality will be negatively effected.

##### Caution

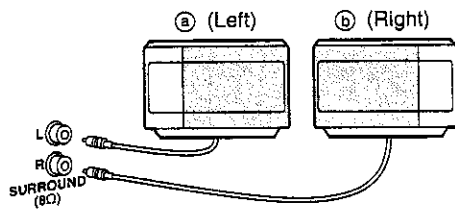
To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker wires.

#### 4 Connect the center speaker.

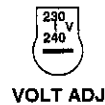
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## Connections

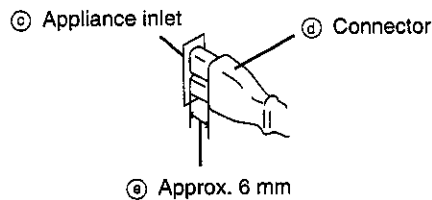
**5**



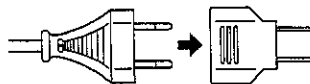
**6**



**7**



**A**



### **5** Connect the surround speakers.

### **6** Set the voltage.

Use a flat-head screwdriver to turn the voltage selector on the rear panel to the appropriate position for the area in which this system is used.

If the power supply in your area is 115 V or 120 V, please set the voltage selector as follows:

- For 115 V: Set to 110 V.
- For 120 V: Set to 127 V.

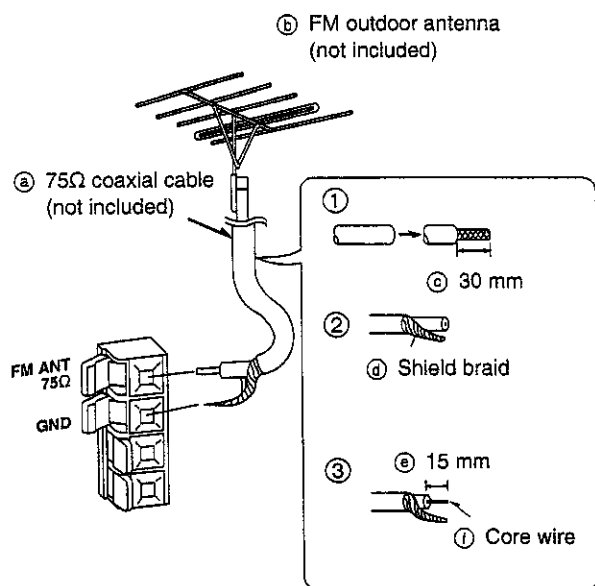
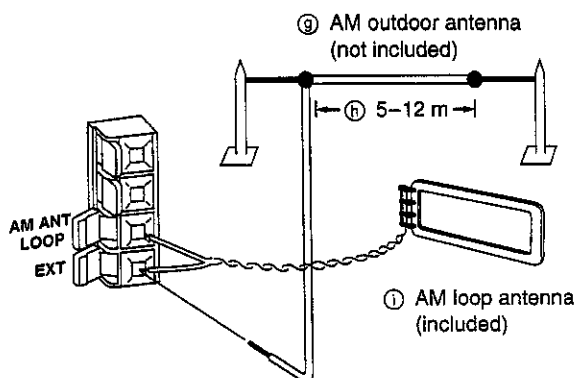
### **7** Connect the AC power cord.

If the power plug does not fit your socket, use the power plug adaptor (included). **A**

#### Insertion of connector

Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.

However there is no problem in using the unit.

**A****B**

## Connections

### Optional antenna connections

You may need an outdoor antenna if you use this system in a mountainous region or inside a reinforced-concrete building, etc.

#### FM outdoor antenna A

Disconnect the FM indoor antenna if an FM outdoor antenna is installed.

- ① Remove a piece of the outer vinyl insulator.
- ② Twist the shield braid.
- ③ Expose the core wire.

#### Note

An outdoor antenna should be installed by a qualified technician only.

#### AM outdoor antenna B

Connect the outdoor antenna without removing the AM loop antenna. Run 5 to 12 m of vinyl-covered wire horizontally along a window or other convenient location.

#### Note

When the unit is not in use, disconnect the outdoor antenna to prevent possible damage that may be caused by lightning. Never use an outdoor antenna during an electrical storm.



## Connections

### External unit connection

- For details, refer to the manual of the units which are to be connected.
- When units other than those described below are to be connected, please consult with your dealer.

#### DVD player with 5.1 ch OUT

Sound cannot be produced unless an DOLBY DIGITAL decoder is connected.

A DVD player with a built-in DOLBY DIGITAL decoder is recommended.

This will allow you to enjoy the brilliant images and powerful sounds available on DVD software.

#### Laser disc player/DVD player (without 5.1 ch OUT)

This unit has Dolby Pro Logic circuitry. If the audio output of video equipment is connected to the AUX1 or 2 terminal of this unit, the sound will be reproduced with the same powerful stereophonic effects found in movie theaters.

#### Video cassette recorder

You can enjoy only sound of the video cassette recorder.

#### Record player

Sound cannot be produced unless an phono equalizer (not included) is connected.

A record player with a built-in phono equalizer is recommended.

#### Note

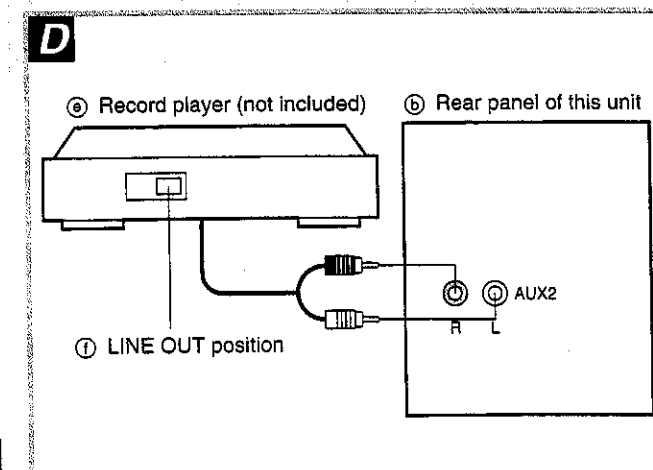
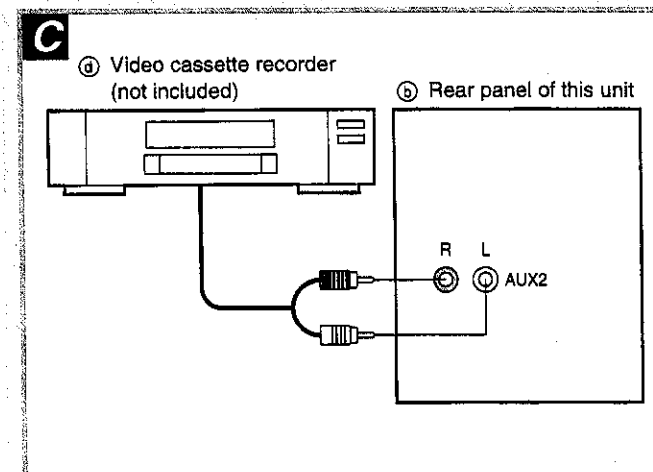
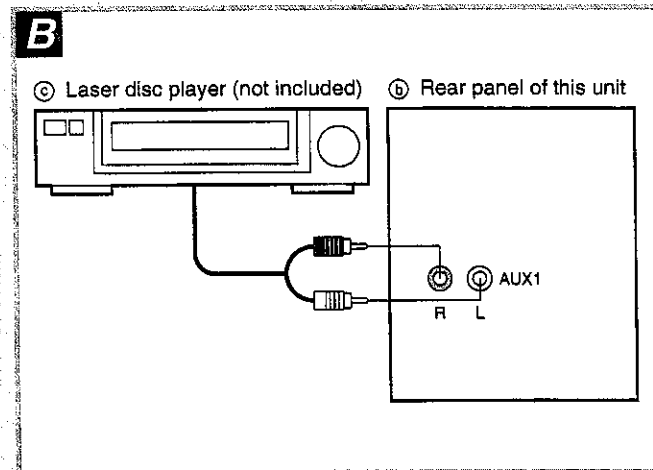
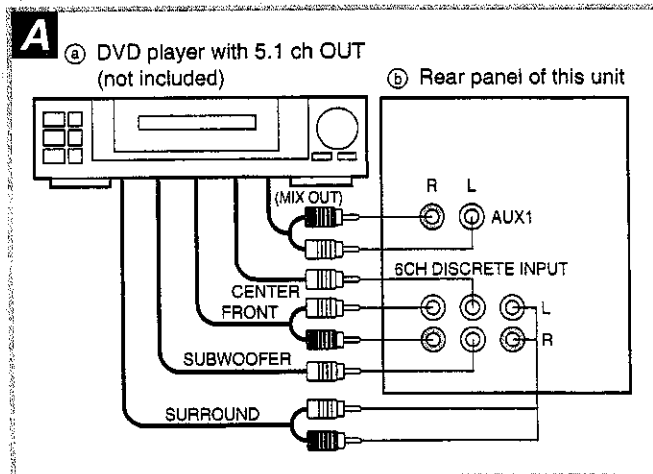
This example shows how to connect a record player with a [PHONO OUT/LINE OUT] switch. Set the switch on the back of the record player to "LINE OUT".

#### To improve the sound effect

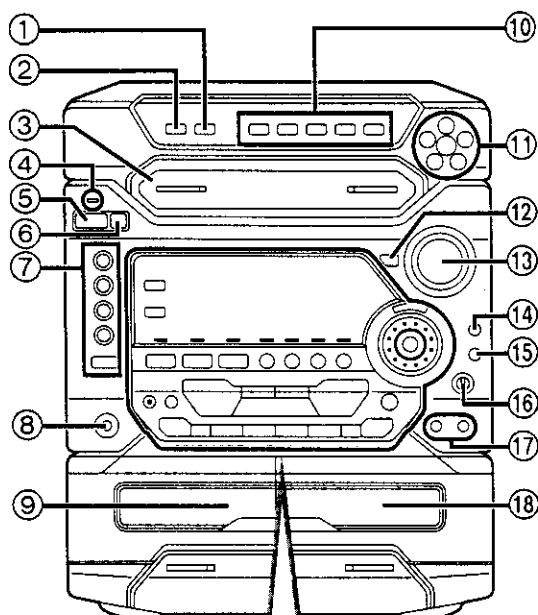
The front speakers have built-in subwoofers, but it is possible to connect another subwoofer (not included) to the SUBWOOFER OUT terminal on the rear panel of this unit.

#### Note

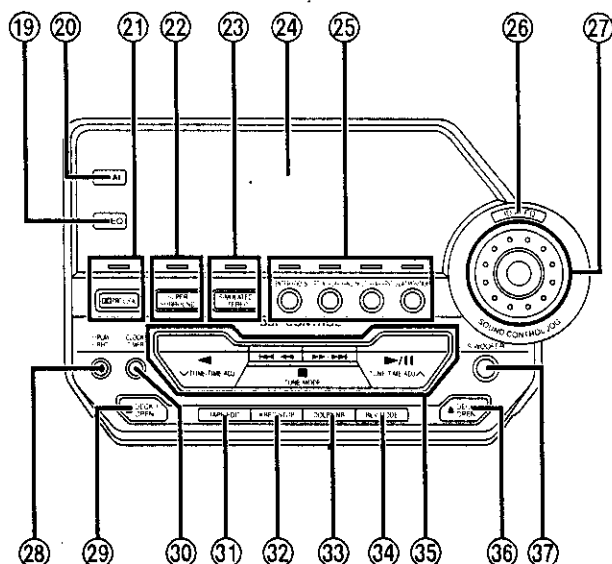
The extra subwoofer can produce sound only when [6CH DISCRETE INPUT] is selected.



**A**





**B**









## Front panel controls

### Main unit

No.	Name	Ref. page
①	CD manager button (CD MANAGER)	38
②	Random play button (RANDOM)	34
③	Disc tray	30
④	AC supply indicator (AC IN)	22
	This indicator lights when the unit is connected to the AC mains supply.	
⑤	Standby/on switch (POWER,  )	22
	Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.	
⑥	Eco mode button (ECO)	22
⑦	Input select buttons and indicators (CD, TUNER/BAND, TAPE DECK1/2, AUX1/2, 6CH DISCRETE INPUT)	26, 32, 40, 88
⑧	Headphones jack (PHONES)	88
⑨	Deck 1 cassette holder	40
⑩	Disc select buttons and indicators (DISC1-DISC5)	32
⑪	Disc tray open/close button (OPEN/CLOSE  )	30
⑫	Display select/demonstration button (-DISPLAY/-DEMO)	22, 88
⑬	Volume control (VOLUME)	28
⑭	KARAOKE effect button (KARAOKE EFFECT)	78
⑮	Karaoke button (KARAOKE)	76
⑯	Microphone volume control (MIC VOL)	76
⑰	Microphone jacks (MIXING MIC)	76
⑱	Deck 2 cassette holder	40

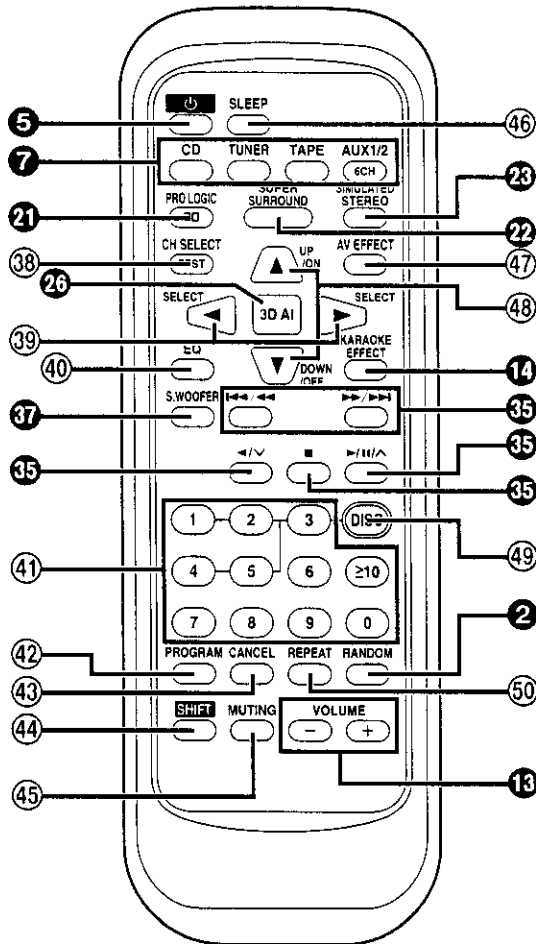
### Center console

⑲	3D EQ indicator (3D EQ)	
⑳	3D AI indicator (3D AI)	
㉑	DOLBY PRO LOGIC on/off button and indicator (  )	68
㉒	Super surround on/off button and indicator (SUPER SURROUND)	70
㉓	Simulated stereo on/off button and indicator (SIMULATED STEREO)	70
㉔	Display	
㉕	AV effect buttons and indicators (CENTER FOCUS, VIRTUAL REAR SRND, MULTI REAR SRND, SEAT POSITION)	72, 74
㉖	3D AI EQ button (3D AI EQ)	58
㉗	Jog control and joy stick (SOUND CONTROL JOG)	54
㉘	Play timer/record timer button and indicator (  ) PLAY/  REC)	80, 82
㉙	Deck1 open button (  ) DECK1 OPEN)	40
㉚	Clock/timer button (CLOCK/TIMER)	24, 80, 82
㉛	Tape edit button (TAPE EDIT)	52
㉜	Recording start/stop button (  ) REC/STOP)	46
㉝	DOLBY NR button (DOLBY NR)	40
㉞	Reverse mode select button (REV MODE)	40
㉟	Basic operating buttons Functions change according to the source.	
㊱	Deck2 open button (  ) DECK2 OPEN)	40
㊲	Super woofer on/off button and indicator (S.WOOFER)	54

## Front panel controls

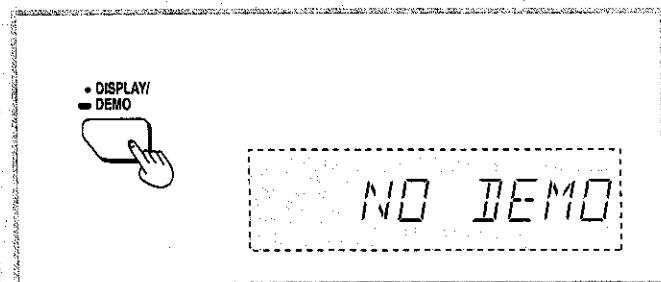
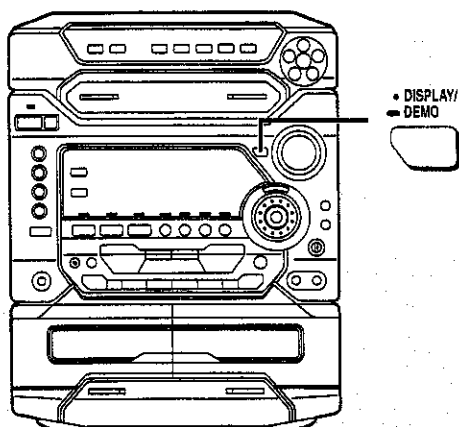
### Remote control

Buttons such as ⑤ function in exactly the same way as the buttons on the main unit.

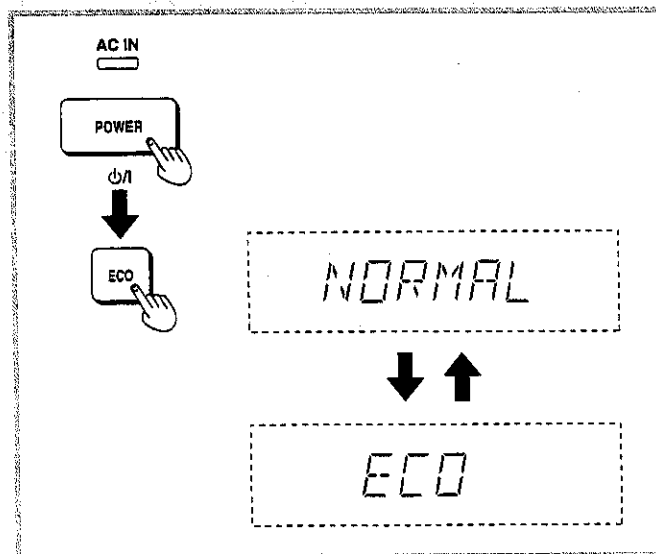
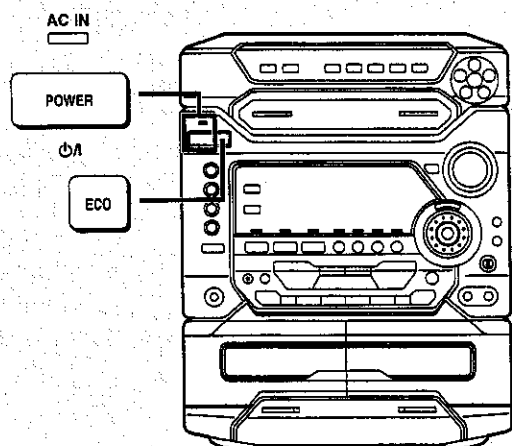


No.	Name	Ref. page
⑤	Standby/on button (⏻)	22
⑦	Input select buttons (CD, TUNER, TAPE, AUX1/2)	26, 32, 40, 88
②①	DOLBY PRO LOGIC on/off button (□ PRO LOGIC)	68
③⑧	Channel select, test button (CH SELECT, TEST)	66
②⑥	3D AI select button(3D AI)	58
③⑨	Select buttons (SELECT ◀ ▶)	74
④⑦	EQ select button (EQ)	54
③⑦	Super woofer on/off button (S.WOOFER)	54
③⑤	Reverse side playback button (◀/v)	40
④①	Numeric buttons (≥10, 1-0)	34
④②	Program button (PROGRAM)	36
④③	Cancel button (CANCEL)	36
④④	Shift button (SHIFT) [6CH] (6CH DISCRETE INPUT): Hold down [SHIFT] and press [AUX1/2]. [TEST] (Test signal output): Hold down [SHIFT] and press [CH SELECT].	66
④⑤	Muting button (MUTING)	88
④⑥	Sleep button (SLEEP)	86
②③	Simulated stereo on/off button (SIMULATED STEREO)	70
②②	Super surround on/off button (SUPER SURROUND)	70
④⑦	AV effect button (AV EFFECT)	72, 74
④⑧	UP/ON, DOWN/OFF buttons (▼ ▲)	66
①④	KARAOKE effect button (KARAOKE EFFECT)	78
③⑤	Skip/search buttons (I◀◀/◀◀, ▶▶/▶▶I)	32, 42
③⑤	Play/pause button (▶/II/△)	32, 40
③⑤	Stop button (■)	32, 40
④⑨	Disc button (DISC)	34
②	Random button (RANDOM)	34
⑤⑦	Repeat button (REPEAT)	34
①⑨	Volume buttons (VOLUME +, -)	28

**A**



**B**



## Turning the demo function off (DEMO)

If the clock has not been set, a demonstration of the display is shown when the unit is off.  
This function is set to on at the time of purchase.

To get the most from the economy mode (see below), turn the demo function off.

**Press and hold [-DISPLAY/-DEMO] until "NO DEMO" is displayed.**

Every time you press and hold the button;

NO DEMO (off)  $\leftrightarrow$  DEMO (on)

## Economy mode (ECO)

When this mode is used the power consumed when the unit is switched to standby mode reduces from a maximum of 13 W to 1 W.

This mode is set to on at the time of purchase.

	NORMAL (off)	ECO (on)
Display	Clock display, etc.	Blank
Power consumption in standby mode	13 W	1 W

The demonstration is shown if DEMO is on, regardless of the condition of the ECO mode. Turn DEMO off if ECO is used.

**Turning ECO on and off:**

**Press [POWER] to turn the unit on.**

**Press [ECO].**

The display changes each time the button is pressed:

NORMAL (off)  $\leftrightarrow$  ECO (on)

When ECO is on:

When the unit is turned off, the display panel remains blank but the AC IN indicator stays alight to show the unit is still connected to the AC mains.

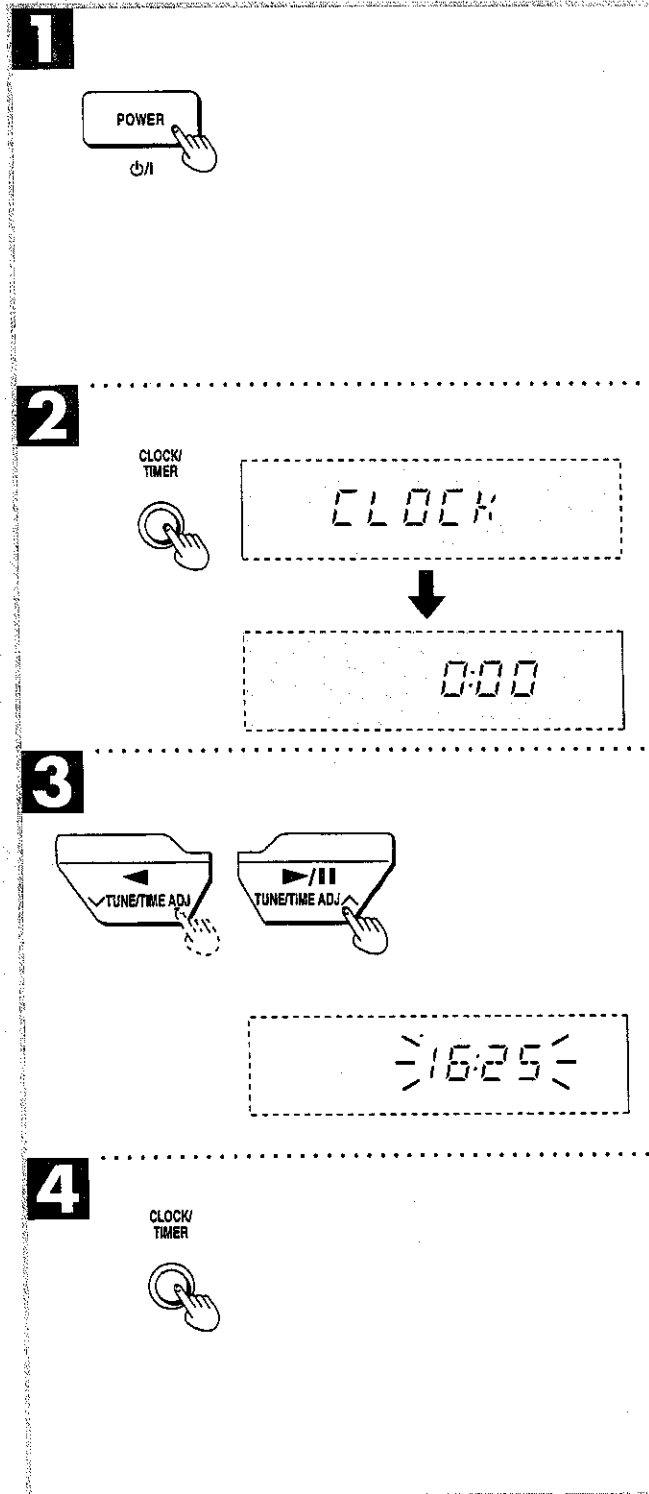
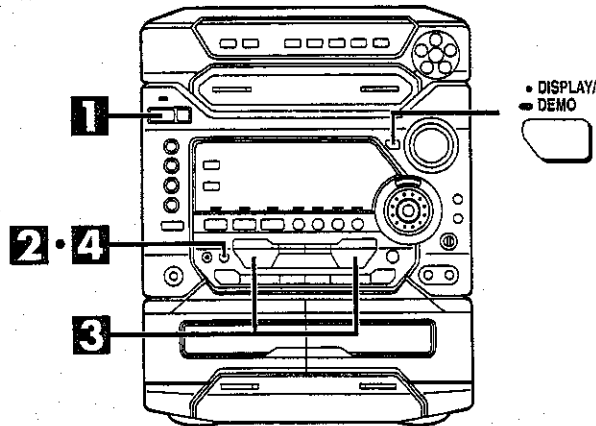
### Note

When the unit is off, the mode can be switched from NORMAL to ECO, but not the other way.

## Setting the time

This is a 24-hour display clock.

The example in the figure shows how to set the time for 16:25 (4:25 p.m.).



**1** Press [POWER] to turn the unit on.

**2** Press [CLOCK/TIMER] to select "CLOCK".

Every time you press the button;

CLOCK → ⏻ PLAY → ⏻ REC

⏪ Previous display ⏩

**3** (within 5 seconds or so)

Press [TUNE/TIME ADJ (v or ^)] to set the present time.

**4** Press [CLOCK/TIMER] to finish setting the time.

The display will return to whatever was displayed before you set the time.

### Displaying the clock

**When the unit is off**

When ECO mode is off;

The clock is displayed constantly.

When ECO mode is on;

Press [-DISPLAY/-DEMO].

The clock is displayed for about 5 seconds and then the display goes blank again.

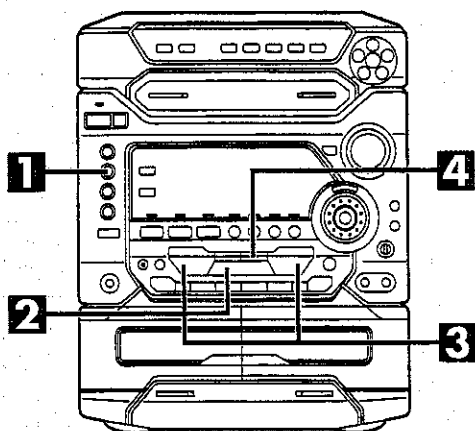
**When the unit is on**

Press [CLOCK/TIMER] so "CLOCK" is shown.

The clock is shown for about 5 seconds then the previous display is restored.

## Presetting radio broadcasts

- Up to 12 stations can be set in each band with automatic or manual memory presetting.
- If broadcast frequencies are preset in the memory, you can easily tune in any of these frequencies from the system or remote control unit.
- You can preset just those stations you like. (See "Presetting only your favorite stations" below.)



### 1 Press [TUNER/BAND] to select band.

The power will come on automatically.  
Every time you press the button; "FM" ↔ "AM".

### 2 Press [TUNE MODE] to select "MANUAL".

Every time you press the button; "MANUAL" ↔ "PRESET".

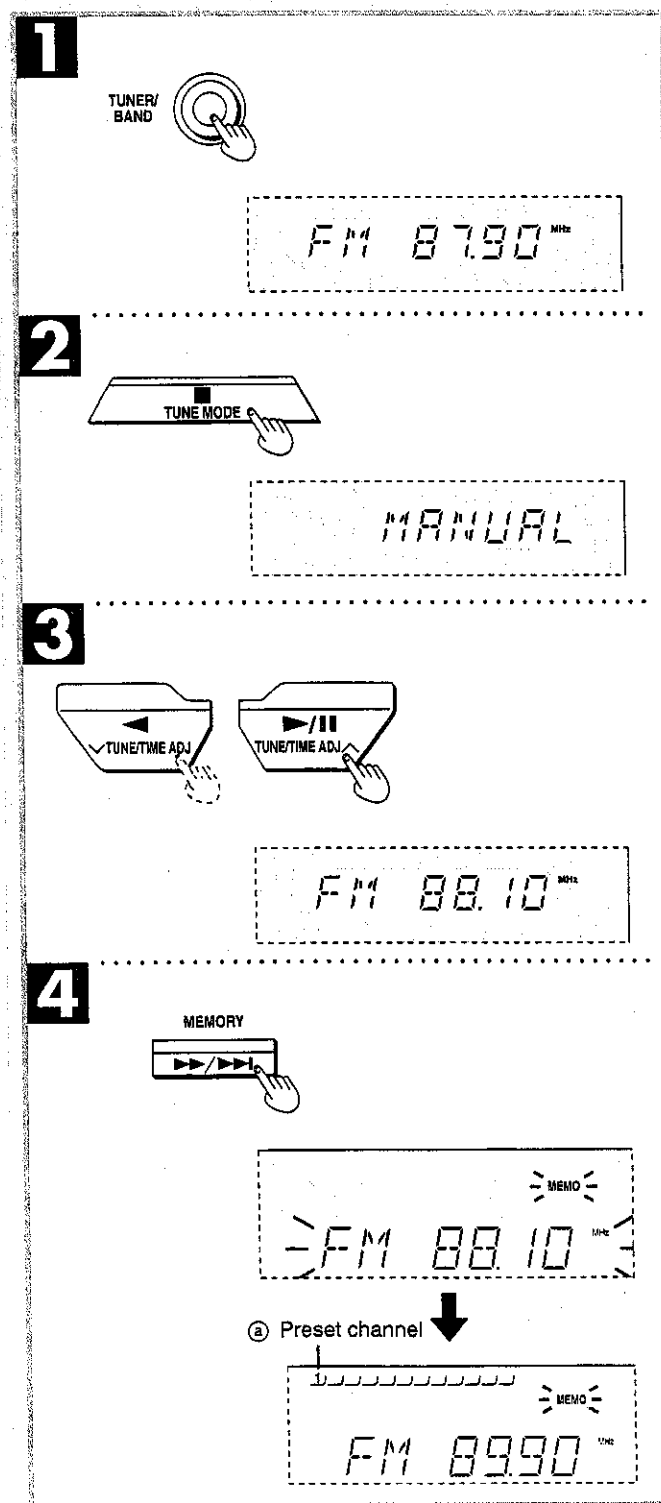
### 3 Press [TUNE/TIME ADJ (v or ^)] until the display shows the frequency from which you want to begin automatic memory presetting.

#### Tips on tuning in radio stations

- ① Hold down either [TUNE/TIME ADJ (v or ^)] until the frequency numbers start scrolling.
- ② When near to the frequency you are looking for, press [TUNE/TIME ADJ (v or ^)] repeatedly until the station is tuned in.

### 4 Press and hold [MEMORY] until the frequency begins to change.

This will start presetting automatically. When finished, the radio will tune in the last station memorized.



If auto presetting is not possible because radio signals are weak or for some other reason, do the following.

### Presetting only your favorite stations

#### Preset the stations one at a time.

1. Perform step 1 above. Then, press [MEMORY] ("MEMO" flashes) and select a station with [TUNE/TIME ADJ (v or ^)].
2. While "MEMO" is flashing press [MEMORY] again and select a preset channel with [TUNE/TIME ADJ (v or ^)].
3. Press [MEMORY] to preset the station.

#### Memory retention

The preset stations are retained in memory for about 2 weeks even if the system is unplugged.

#### AM allocation settings:

This system comes equipped with an electronic digital tuner that divides the broadcast band into many small steps. These steps match the assignable broadcast frequencies and intervals in between.

Each country allocates broadcast bands according to their particular needs.

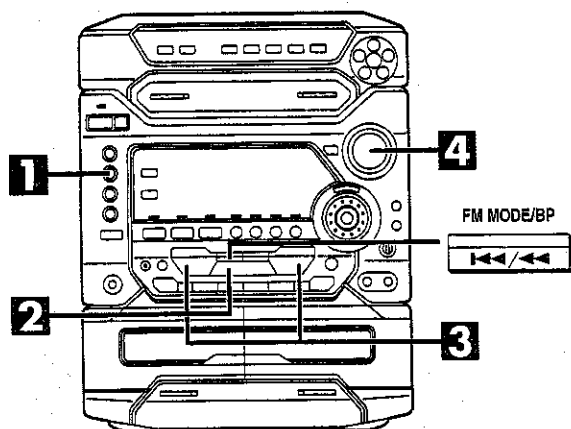
By adjusting the allocation, you can enable the tuner to receive AM broadcasts allocated in 10 kHz steps. Press and hold [TUNER/BAND]. After a few seconds the display will change to a flashing display of the current minimum AM frequency. If you continue to hold [TUNER/BAND] down, the minimum frequency will change. Release the button at this time.

To return to the original frequency indication, repeat above.

#### Note

After changing the allocation setting, the frequencies you previously preset in the memory will be cleared.

## Listening to radio broadcasts



### 1 Press [TUNER/BAND] to select band.

The unit comes on and the radio begins to play.  
Every time you press the button; "FM" ↔ "AM".

### 2 Press [TUNE MODE] to select "PRESET" or "MANUAL".

Every time you press the button; "MANUAL" ↔ "PRESET".

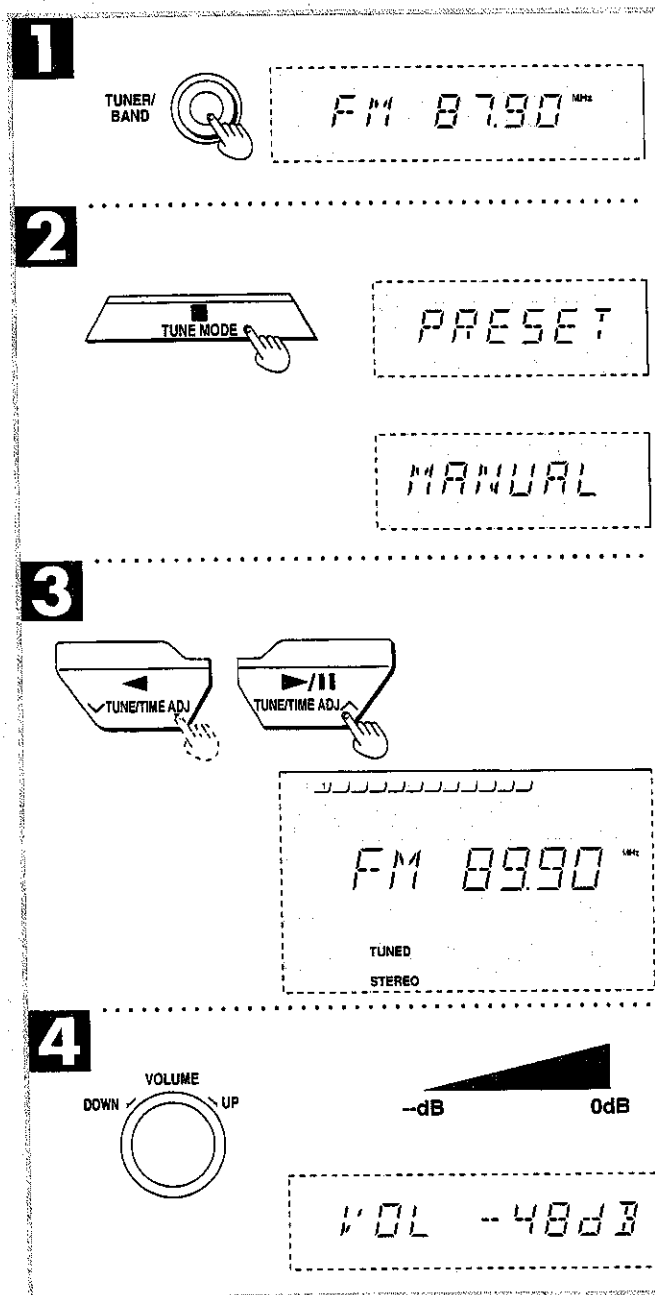
PRESET: For preset stations

MANUAL: For non-preset stations

### 3 Press [TUNE/TIME ADJ (v or ^)] to select the desired broadcast.

"STEREO" lights when an FM stereo broadcast is being received. "TUNED" lights when you precisely tune in a broadcast station.

### 4 Turn [VOLUME] to adjust the volume level.



#### Auto tuning

Auto tuning is an easy way to tune in non-preset stations in the manual mode.

Hold down [TUNE/TIME ADJ (v or ^)], and release the button when the frequency starts scrolling.

The radio will stop automatically on the first station it picks up.

• When there is outside interference, the radio sometimes stops on a certain frequency where no station is broadcasting.

#### To stop auto tuning

Press [TUNE/TIME ADJ (v or ^)] again.

#### If noise is excessive in the FM stereo mode

Press [FM MODE/BP]. ("MONO" will light up.)

Sound will be produced in monaural, but this also reduces noise.

Press the button again to cancel. "MONO" will go out.

Normally, you'll want to listen in stereo, so leave "MONO" off. This way, you can listen to stereo broadcasts in stereo, and monaural broadcasts in mono.

You can preset an FM station in monaural by following the steps under "Presetting only your favorite stations" on page 26. After selecting the station in step 1, select "MONO" with [FM MODE/BP], then continue with steps 2 and 3.

#### Note

• If you preset stations in memory they can be easily selected from the remote control with [v], [^/v], [v/^] or the numeric buttons.

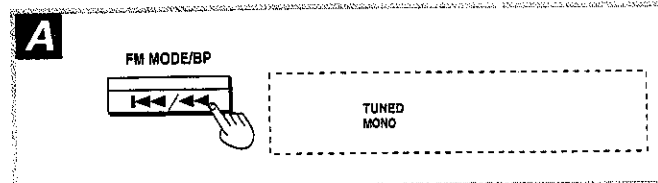
1. Press [TUNER] to select the band.

2. Press [v] or [v/^] to select the channel, or select the required channel directly with the numeric buttons.

#### To select a two-digit channel:

Press [10] and then the two numbers you want within 10 seconds or so.

• Sound is momentarily interrupted if you load/unload tapes while listening to an AM broadcast.



## Listening to compact discs

### Loading and checking CDs

Always stop the changer before loading or changing CDs. You cannot change CDs while a disc is playing.

#### How to load CDs

- 1** Press an [OPEN/CLOSE ▲ (1-5)] button.  
The selected tray will open.
- 2** Set CD in the tray.
- 3** Press the same [OPEN/CLOSE ▲ (1-5)] button.  
The tray will close and the disc No., number of tracks and total playing time will be shown on the display.

#### To continue loading CDs in the other trays

Press another [OPEN/CLOSE ▲ (1-5)] button to open the required tray.

The current tray closes and the selected tray automatically opens.

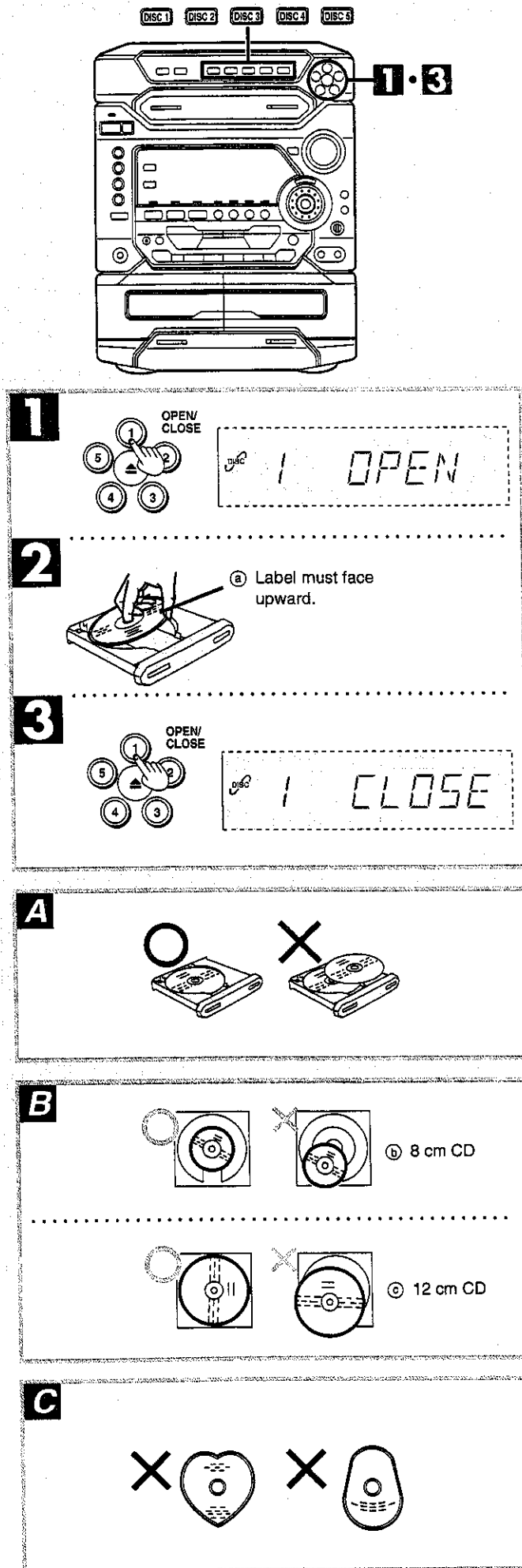
#### Disc indicators (DISC 1-DISC 5)

The disc indicators light whenever the tray is in the playing position, whether it is loaded or not.

#### To prevent damage

Always observe the following points.

- Load only 1 CD per tray. **A**
- Load CDs as shown in figure **B**.
- An adapter is not needed with 8 cm CDs (singles).
- Set the system on a flat, level surface.  
Do not set it on top of magazines, inclined surfaces, etc.
- Do not move the system while trays are opening/closing, or when loaded.
- Do not put anything except CDs in trays.
- Do not use cleaning CDs or CDs which are badly warped or cracked.
- Do not use CDs with poorly attached labels or stickers.  
Adhesive protruding from underneath stickers or left over from peeled off stickers can cause your stereo to malfunction.
- Do not use irregular shape CDs. **C**





## Listening to compact discs

### Sequential play

- 1 Press [CD].**  
The power will come on automatically.  
If the unit was off and a CD was loaded, play will start automatically (One touch play function).
- 2 Insert CDs in the trays.**  
(⇒ see page 30.)
- 3 Press [DISC 1]–[DISC 5] to select the disc you want.**  
(If the desired CD is indicated on the display panel, the same operation can be accomplished by pressing [▶/||].)  
  
Play will start from the first track on the selected disc and will continue until the last track of the final disc is played (see below).
- 4 Turn [VOLUME] to adjust the volume level.**

**To stop the disc A**  
Press [■].

**When "▶" appears on the display**  
It indicates there are 13 or more tracks on the disc in the playing position.

**What is meant by "final disc"?**  
For example, if play starts from disc 4, disc 3 will be the "final disc".  
**Order of progression:**  
Disc 4→5→1→2→3

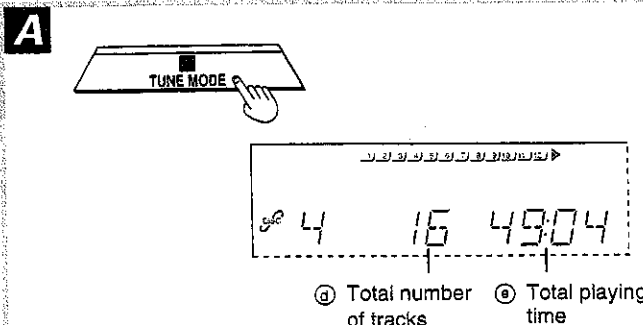
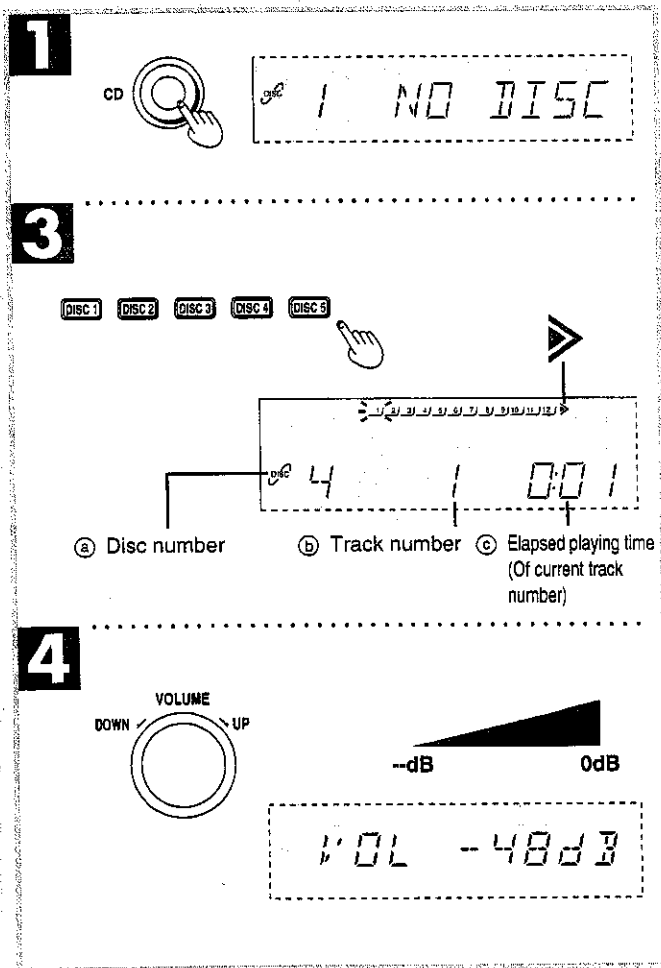
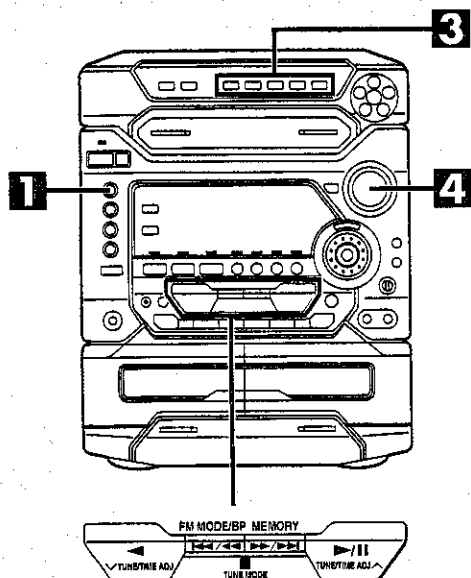
<b>To pause</b>	Press [▶/  ] during playback. To resume playback, press [▶/  ].
<b>To search forward/backward (Search)</b>	Hold down [◀/◀◀] (backward) or [▶/▶▶] (forward) during playback or pause mode.
<b>To skip forward/backward</b>	Press [◀/◀◀] (backward) or [▶/▶▶] (forward) during playback or pause mode.

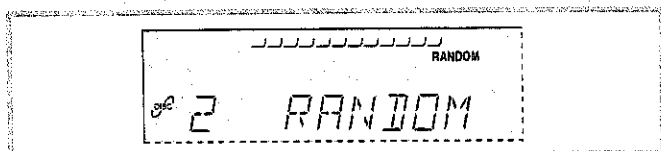
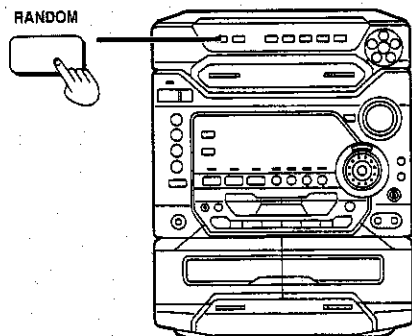
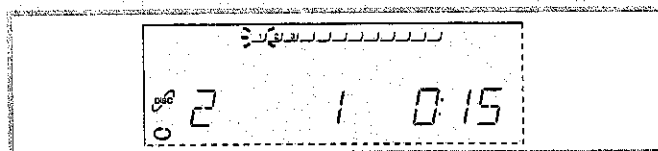
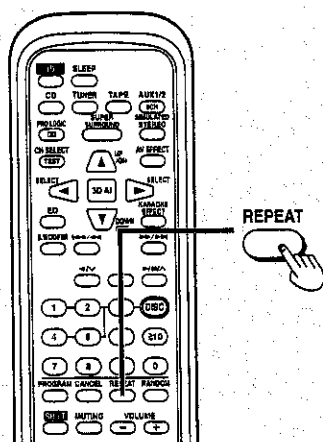
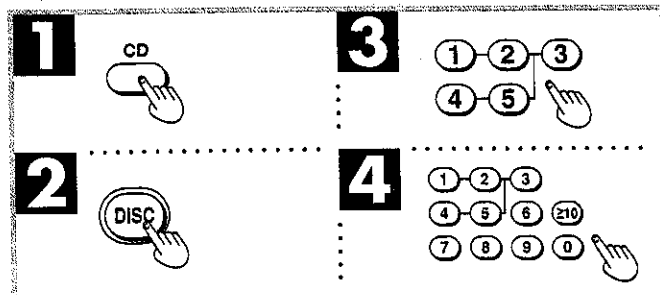
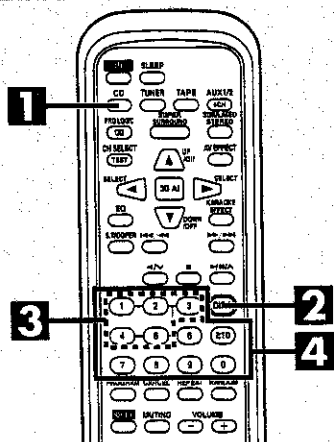
#### Note

- During random play (⇒ page 34), you cannot skip to tracks which have already been played.
- During program play (⇒ page 36) or random play, you can search forward or backward only within the current track.
- During program play, skipping is always in the programmed order, whether forward or backward.

#### Reference:

- After you have turned a surround system on when listening to another source, the surround system is automatically turned off when CD is selected as the source and the unit switches to two channel stereo mode. (The surround system can be turned on again after CD is selected.)
- Use the CD manager function if you want to listen to one CD only. (⇒ page 38)



**A****B****C**

## Listening to compact discs

### Random play

**A**

Press [RANDOM].

All tracks on the loaded CDs will be played in random order. Playback will stop automatically when all tracks have been played.

To cancel random play

Press [RANDOM] once again.

#### Note

You can use random play with your program. Only the programmed tracks will be played, but in random order.

### Repeat play

**B**

by remote control only

Press [REPEAT] before or during play.

All tracks on the loaded CDs are repeated.

To cancel repeat play

Press [REPEAT] once again.

To repeat your favorite tracks

1. Program the tracks you want (⇒ page 36).
2. Press [REPEAT] and make sure "↺" is displayed.
3. Press [▶/II]. Playback will start.

To repeat just one track

Set the 1-TRACK mode (⇒ page 38), press [REPEAT] before or during playback, and make sure "↺" is displayed.

### Direct access play

**C**

by remote control only

**1** Press [CD].

**2** Press [DISC].

**3** (within 10 seconds or so)

Press [1]–[5] to select the disc you want.

**4** Press the numeric button to select the desired track number.

The CD will be played from the selected track to the last track of the final disc.

To select a two-digit track

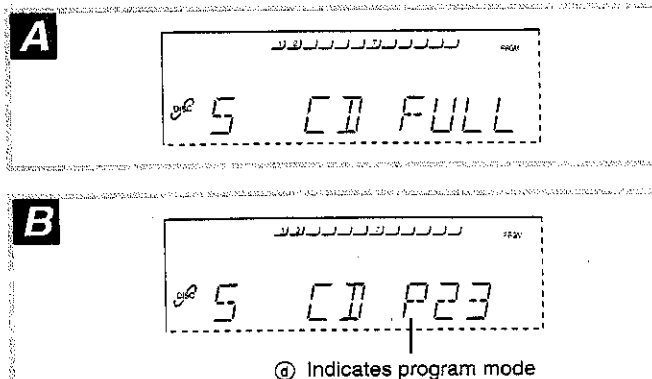
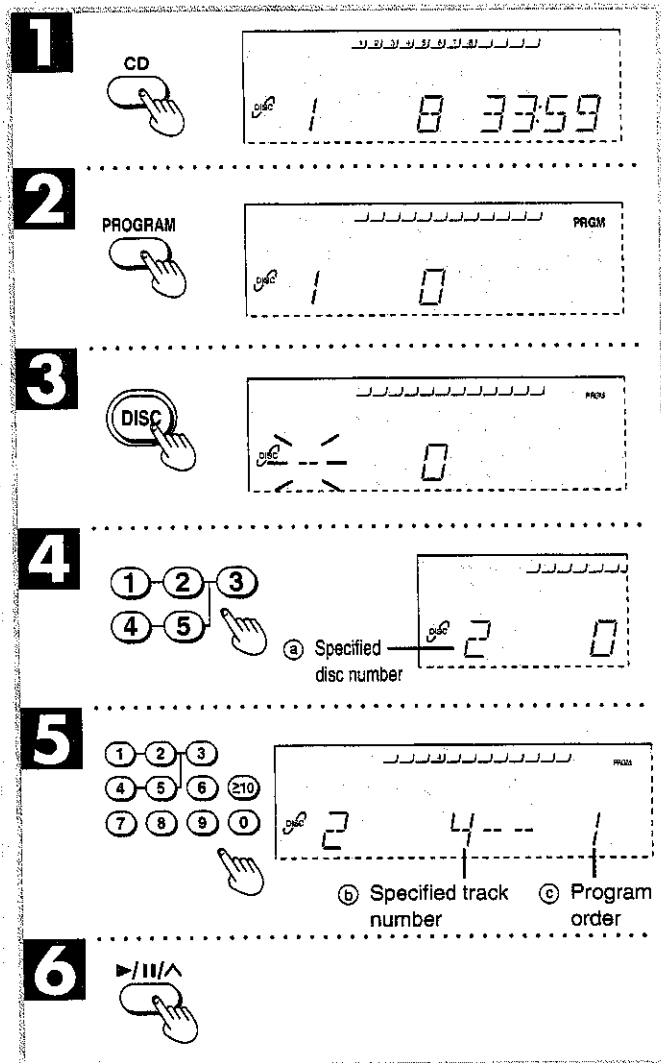
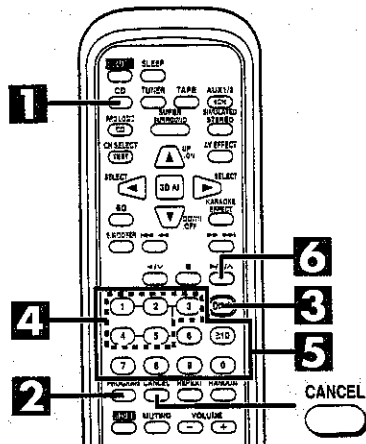
Press [≥10] and then the two numbers you want within 10 seconds or so.

For example

Track no. 20: [≥10]→[2]→[0]

Track no. 35: [≥10]→[3]→[5]

## Listening to compact discs



### Program play

by remote control only

You can program up to 24 tracks.

- 1** Press [CD].  
Ensure CD is stopped.
- 2** Press [PROGRAM].
- 3** Press [DISC].
- 4** (within 10 seconds or so)  
Press [1]–[5] to select the disc you want.
- 5** Press the numeric button to select the desired track.  
Repeat steps **3**–**5** until you have programmed the desired track(s).
- 6** Press [▶/||/▲].  
Play will start in the programmed sequence.

### To cancel program play mode

Press [PROGRAM] in the stop mode.

Programmed contents will be saved in memory.

Pressing [■] will cancel program play, but it will also erase the entire program.

### To select a two-digit track

Press [≥10] and then the two numbers you want.

### When "CD FULL" appears **A**

The number of programmed tracks is limited to 24. No further tracks can be programmed.

### You can do the following during program mode **B**

- Check program contents.  
Press [◀/▶] or [▶/▶▶].  
Everytime you press one of the buttons, the track and program No. are shown on the display.
- Add to the program.  
Repeat steps **3** through **5**.
- Cancel entries.

From the last programmed track	Press [CANCEL].
A specified track only	Select the track with [◀/▶] or [▶/▶▶], and press [CANCEL] within 3 seconds.
All tracks	Press [■].

### Memory retention

Your program is retained in memory for about 2 weeks while the system is unplugged.

### To replay your program

If you turned off your program with [PROGRAM], you can play it again as explained below.

1. Press [PROGRAM].
2. Press [▶/||/▲].

### If you program a track not on your CDs

The track is initially programmed, but during program play, the player will skip that track and will continue playing from the next programmed item.

## Listening to compact discs

### To listen to special CDs and tracks (CD Manager function)

This function makes it easier for you to select specific CDs and tracks from amongst those loaded in the player.

You can use this function to make recordings as well.

There are 3 CD/track selection modes.

- For playing back 1 track only from all loaded CDs  
1-Track mode (1-TRACK)
- For playing back 1 CD only from all loaded CDs  
1-Disc mode (1-DISC)
- For playing back 1 track on all loaded CDs  
1-Track All-Disc mode (1-ALL)

#### 1 Press [CD].

Ensure CD is stopped.

#### 2 Press [CD MANAGER] to select the desired mode.

Every time you press the button;

1-TRACK → 1-DISC → 1-ALL

↑ NORMAL ↓  
(OFF)

1-TRACK: Only one particular track is played.

1-DISC: The tracks on only one particular disc are played.

1-ALL: The same track numbers on each of the CDs are played in succession.

(NORMAL: The original display is restored in about 3 seconds.)

#### 3 Press [DISC 1]–[DISC 5] to select the disc you want.

##### Note

This step is not required if 1-ALL was selected in step 2.

#### 4 Press [◀◀/▶▶] or [▶▶/▶▶1] to select the desired track.

##### Note

This step is not required if 1-DISC was selected in step 2.

#### 5 Press [▶/||].

The selected track will start.

#### To stop play

Press [■].

#### When playback ends

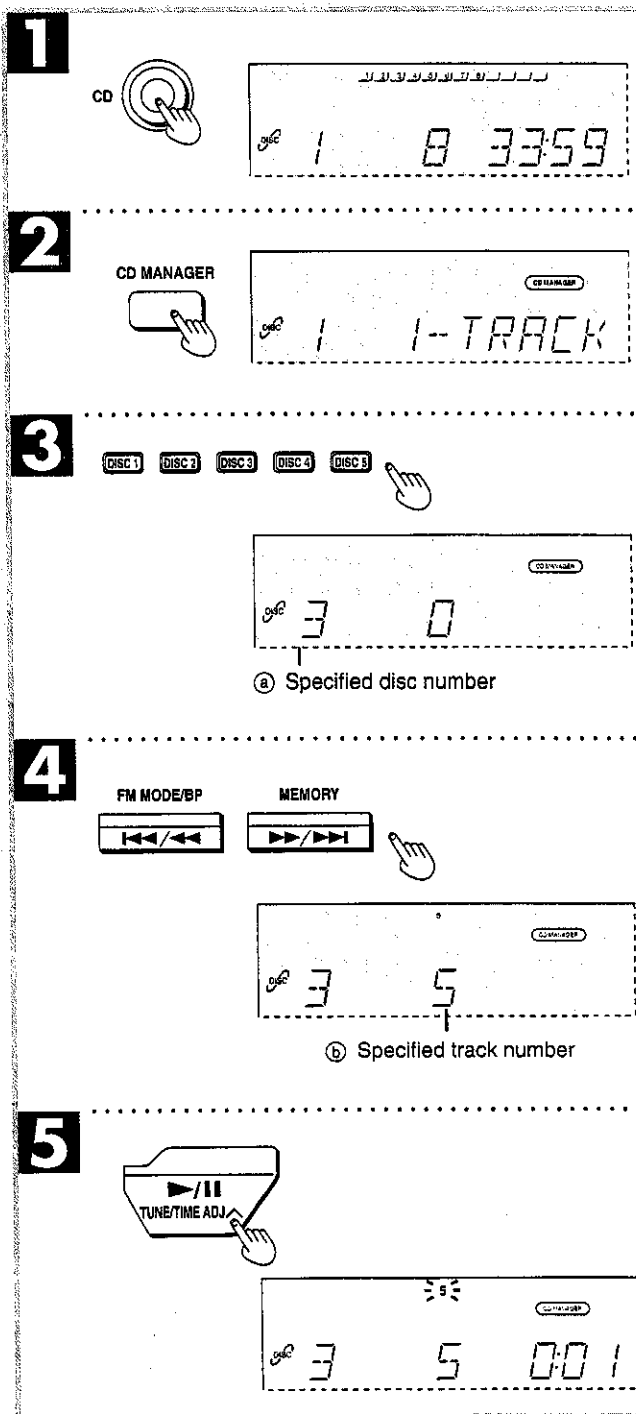
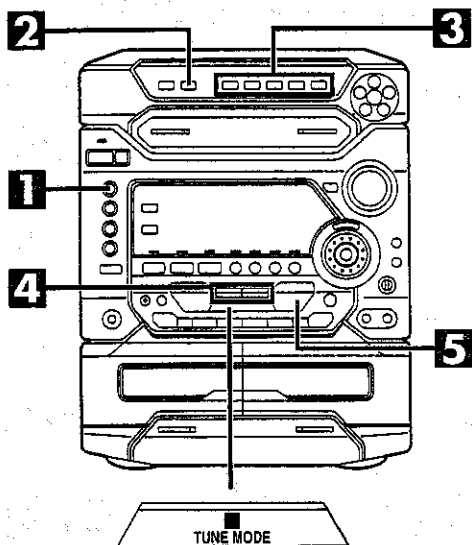
"NORMAL" will appear on the display for about 3 seconds, then the CD MANAGER function will turn off automatically.

#### During play in the 1-ALL mode:

- It is not possible to skip back to a CD whose track has already been played.
- If a CD does not have the designated track number, it is skipped and play continues.

##### Note

You can use the repeat function (⇒ page 34) and random play (⇒ page 34) at the same time. However, only the repeat function is available for 1-TRACK mode.



## Listening to tapes

**Types of tapes which can be played correctly:**  
The unit automatically identifies the type of tape.

NORMAL POSITION/TYPE I	○
HIGH POSITION/TYPE II	○
METAL POSITION/TYPE IV	○

You can use either deck 1 or deck 2 for tape playback.

### 1 Press [TAPE DECK1/2].

The power will come on automatically.  
If the unit was off and a cassette was loaded, play will start automatically (One touch play function).

### 2 Press [▲ DECK1 OPEN] or [▲ DECK2 OPEN] and insert the tape.

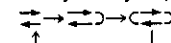
Insert the tape with the exposed tape facing down.  
Close the holder by hand.

### 3 Press [DOLBY NR].

You have to turn DOLBY NR ON/OFF according to the type of recording you made.  
Every time you press the button: **NR → (OFF)**

### 4 Press [REV MODE] to select the reverse mode.

Every time you press the button;



- : One side is played, then playback stops automatically.
- : Both sides (front side → reverse side) are played one time each, then playback stops automatically.
- ↔: Both sides are played 8 times each, then playback stops automatically.

### 5 Press [◀] or [▶/II] to start playback.

- [▶/II]: The forward side (front side) will play.
- [◀]: The reverse side will play.

### 6 Turn [VOLUME] to adjust the volume level.

#### To stop tape playback

Press [■].

#### To change the deck to be used

Press [TAPE DECK1/2] to select the deck you want to use when you load cassettes into both decks.

#### To listen to 2 tapes consecutively

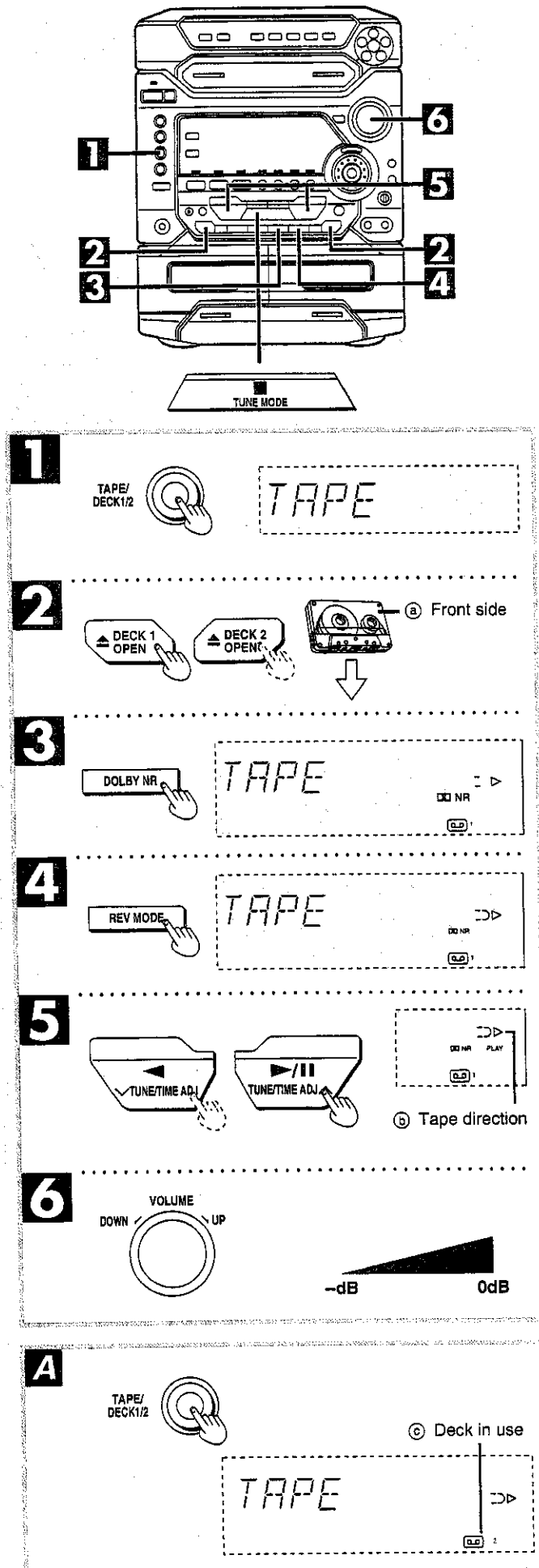
Load a tape into each deck and select ↔. Both tapes will be played 8 times each.

#### Note

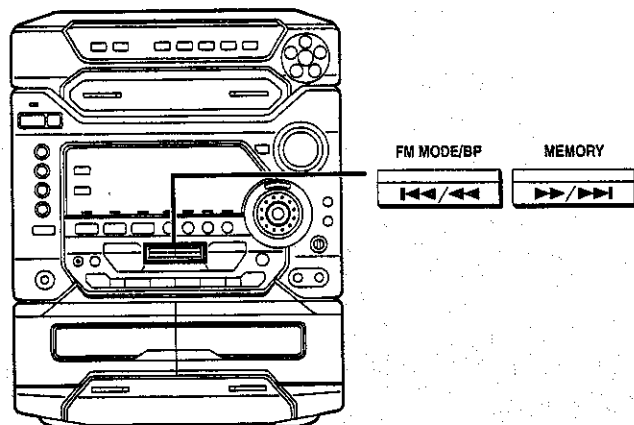
Playback is interrupted while playing back tapes if you open the other deck.

#### Reference:

After you have turned a surround system on when listening to another source, the surround system is automatically turned off when TAPE is selected as the source and the unit switches to two channel stereo mode.



**A**



## Listening to tapes

### To fast-forward or rewind the tape

Press [/<<] or [>>/<<] in the stop mode.

Tape direction	To rewind	To fast-forward
"▶"	[<</<<]	[>>/>>]
"◀"	[>>/>>]	[<</<<]

### To find the beginning of a program (TPS: Tape Program Sensor)

Press [/<<] or [>>/<<] during play.

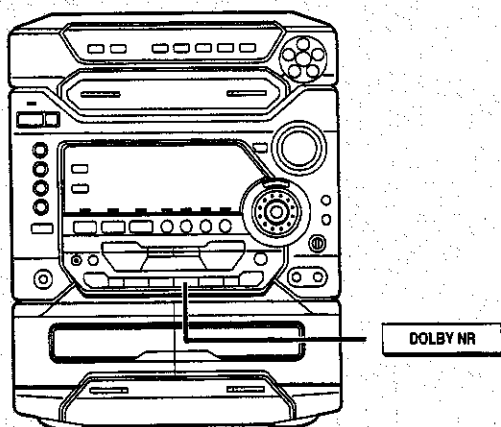
Tape direction	To play the current tune from the beginning	To play the next tune from the beginning
"▶"	[<</<<]	[>>/>>]
"◀"	[>>/>>]	[<</<<]

#### Note

The TPS function searches for silent parts of about 4 seconds in length which are normally found between tunes. As a result, it may not function properly in the following cases

- With short silent parts
- When noise occurs between tunes
- With silent parts found within tunes

**B**



### About the Dolby noise-reduction system

The Dolby noise-reduction system is designed to effectively reduce the annoying high-frequency "hissing" noise typical of cassette tapes.


During recording, the system functions to increase the high-frequency sound level, and then, during playback, that same portion is weakened to bring it back to the previous level.

The DOLBY NR effect is obtained by selecting the same type of Dolby during playback as was used during recording.

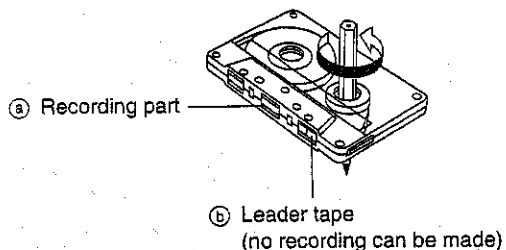
This unit includes the Dolby B NR-type.

#### Dolby B NR-type

Noise is reduced to about one-third.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

**A**



## Before recording (Deck 2 only)

### Types of tapes which can record correctly

The unit automatically identifies the type of tape.

NORMAL POSITION/TYPE I	○
HIGH POSITION/TYPE II	○
METAL POSITION/TYPE IV	×

This system cannot make a recording or erasing correctly, if metal position tapes are used.

### To record from the beginning of the tape **A**

You cannot record on the leader part of the tape. Before recording, wind the tape past the leader to a point where recording can start immediately.

### To start recording from a particular position on the tape

Wind the tape on to the position you want recording to start from.

### To start recording from the reverse side **B**

Insert the cassette into deck 2 and follow these steps to change the side.

- ① Press [TAPE DECK1/2] so the deck 2 indicator lights.
- ② Press [◀] then [▶]. Tape direction will be shown as "◀".

### How volume, sound quality/surround effect recording

The tape you are recording is not effected whatsoever by changes in volume, sound quality, surround effect and surround system. In recording, sound quality, surround effect and surround system are set automatically to "FLAT".

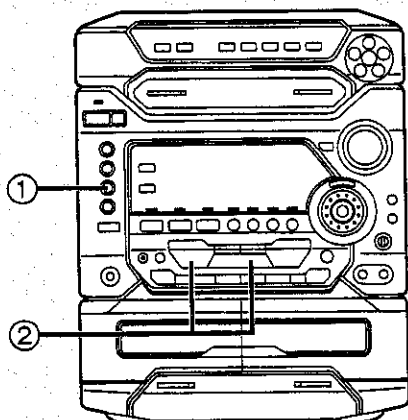
### To erase a recorded sound **C**

- ① Disconnect the microphone(s).
- ② Press [TAPE DECK1/2].
- ③ Insert the recorded tape into deck 2.
- ④ Press [DOLBY NR] so that the Dolby NR indicator goes off.
- ⑤ Press [REV MODE] to select reverse mode.
- ⑥ Press [● REC/STOP].

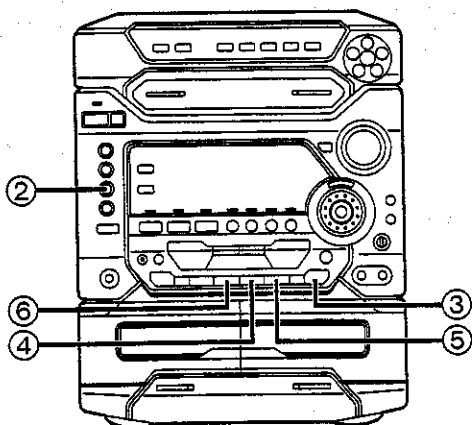
#### Note

- You cannot record when [6CH DISCRETE INPUT] is selected.
- You cannot open deck 1 while recording.
- You cannot fast-forward or rewind one deck while recording with the other.

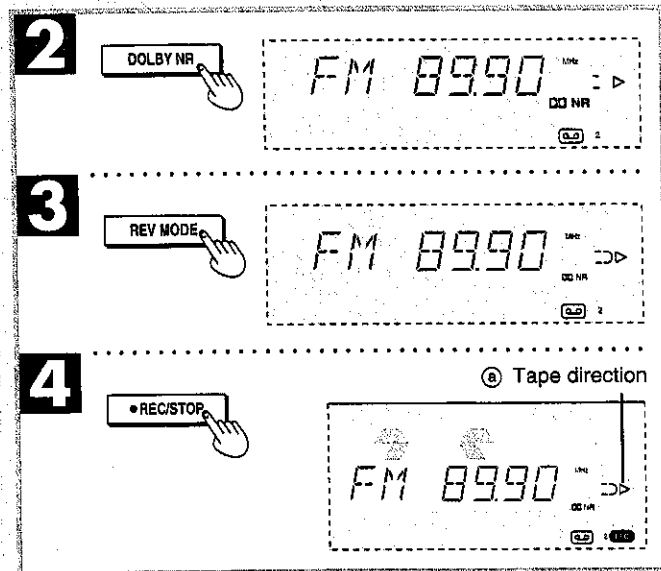
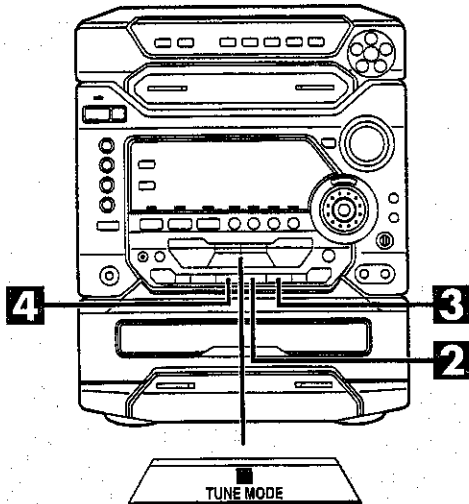
**B**



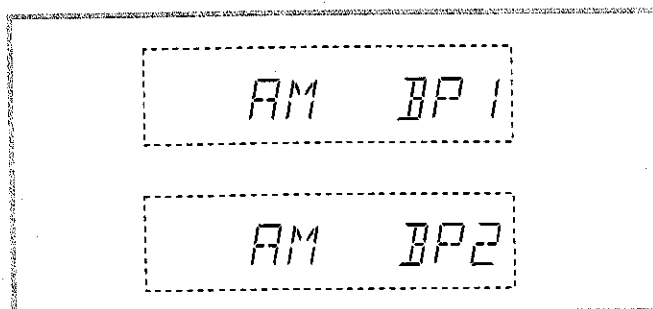
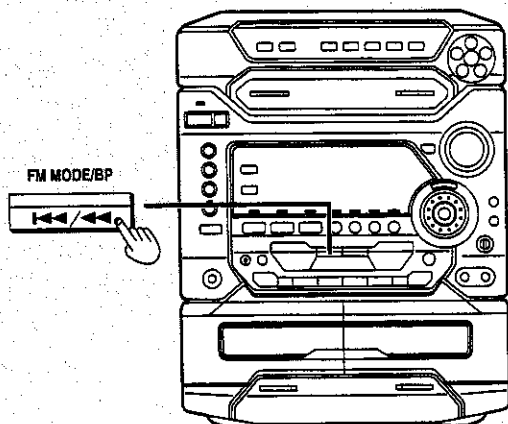
**C**



## Recording from radio broadcasts



**A**



### Preparation:

Insert the tape to be recorded onto into deck 2.

Tape direction is automatically set to "►".

Change the tape direction if you want to start recording from the reverse side. (⇒ page 44)

### 1 Select a radio station.

(⇒ page 28, steps 1-3)

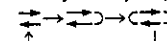
### 2 Press [DOLBY NR].

You have to turn Dolby NR ON/OFF according to the type of recording you want to make.

Every time you press the button: **NR → (OFF)**

### 3 Press [REV MODE] to select the reverse mode.

Every time you press the button;



↔: One side is recorded, then recording stops automatically.

↔↔, ↔↔: Both sides (front side → reverse side) are recorded, then recording stops automatically.

### 4 Press [● REC/STOP] to start recording.

If you selected ↔↔ in step 3, the direction will automatically change to ↔ when recording starts.

### To stop recording

Press [● REC/STOP] again.

Recording can also be stopped by pressing [■].

### To cut an unnecessary part while recording

1. Press [● REC/STOP] during the unnecessary part. The cassette deck will stop.
2. Press [● REC/STOP] to resume recording again. Recording will continue in the same direction as before.

### Note

When recording an AM broadcast, volume is momentarily interrupted when you start and stop the recording.

### To reduce noise while AM recording (Beat proof function)

Press [◀/▶, FM MODE/BP] while recording.

Each time you press the button, BP 1 and BP 2 will be displayed alternately.

Select the position where there is less noise.



## Recording from compact discs

### Sequential recording

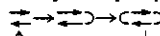
#### Preparation:

1. Insert the tape to be recorded onto into deck 2.  
Tape direction is automatically set to "►".  
Change the tape direction if you want to start recording from the reverse side. (→ page 44)
2. Insert the CD.

- 1 ① Press [DISC 1]–[DISC 5] to select the disc.  
② Press [■] to stop the CD.

- 2 Press [DOLBY NR].  
You have to turn Dolby NR ON/OFF according to the type of recording you want to make.  
Every time you press the button: ☐ NR → (OFF)

- 3 Press [REV MODE] to select the reverse mode.  
Every time you press the button;



→: One side is recorded, then recording stops automatically.

→, ←: Both sides (front side → reverse side) are recorded, then recording stops automatically.

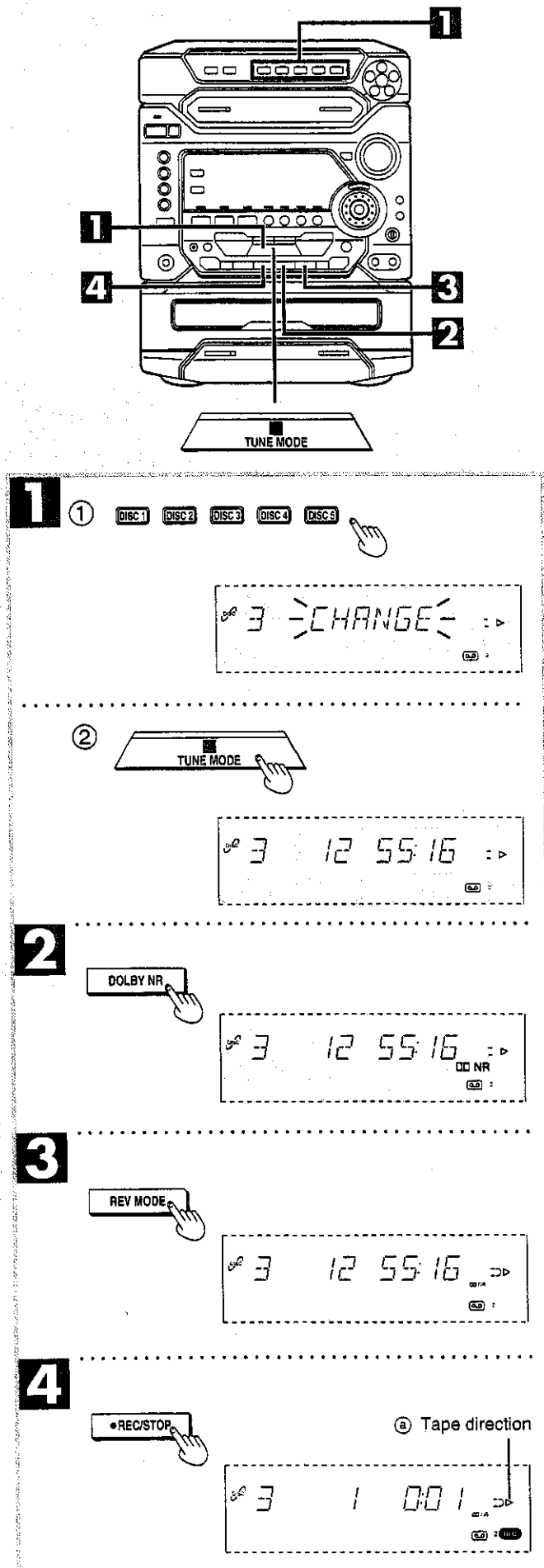
- 4 Press [● REC/STOP] to start recording.  
• If you selected → in step 3, the direction will automatically change to ← when recording starts.  
• The recording will proceed from the first track on the selected CD and will continue on through the last track of the final disc.  
• The tape deck stops automatically when the CD is finished.

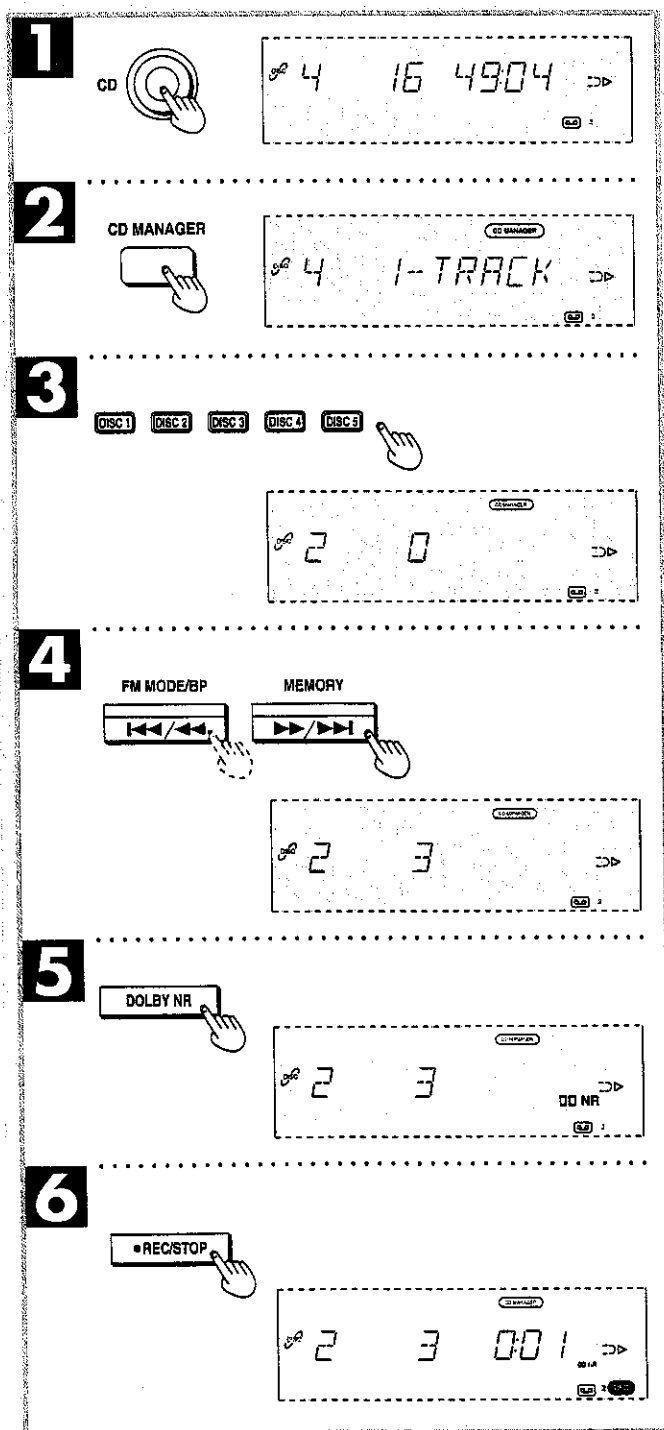
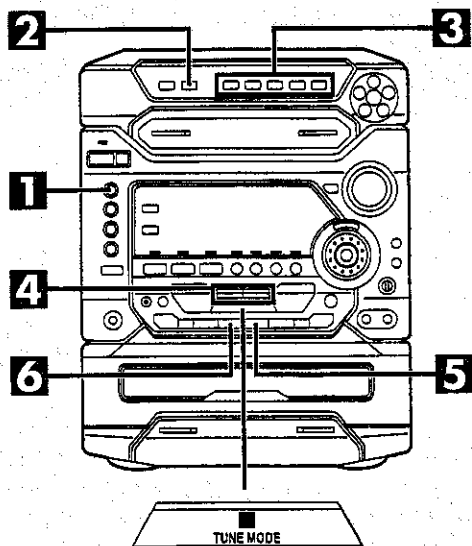
#### To stop recording

- To add a 4 second silent interval before stopping  
Press [■]. The CD will stop automatically too.
- To stop recording without a silent interval  
Press [● REC/STOP]. The CD will stop automatically too.

#### To record programmed tracks

1. After step 3, program the track you want (performs steps 2–5 on page 36).
2. Press [● REC/STOP] to start recording.



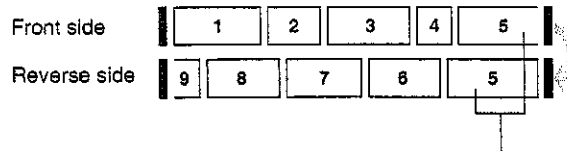


## Recording from compact discs

### To record special CDs and tracks (CD Manager function)

This function makes it easier for you to select special CDs and tracks from amongst those loaded in the player.

- While recording, if a track is cut off in the middle at the end of the front side, it is re-recorded from the beginning on the reverse side.



- At the end of the reverse side recording stops and the current track will be interrupted.

#### Preparation:

- Insert the tape to be recorded onto into deck 2. Tape direction is automatically set to "►". Change the tape direction if you want to start recording from the reverse side. (► page 44)
- Insert the CD.

#### 1 Press [CD].

#### 2 Press [CD MANAGER] to select the desired mode.

Every time you press the button:

1-TRACK → 1-DISC → 1-ALL

↑ NORMAL ↓  
(OFF)

1-TRACK: Only one particular track is recorded.

1-DISC: The tracks on only one particular disc are recorded.

1-ALL: The same track numbers on each of the CDs are recorded in succession.

(NORMAL: The original display is restored in about 3 seconds.)

#### 3 Press [DISC 1]–[DISC 5] to select the disc.

##### Note

This step is not required if 1-ALL was selected in step 2.

#### 4 Press [I◀◀/◀◀] or [▶▶/▶▶] to select the desired track.

##### Note

This step is not required if 1-DISC was selected in step 2.

#### 5 Press [DOLBY NR].

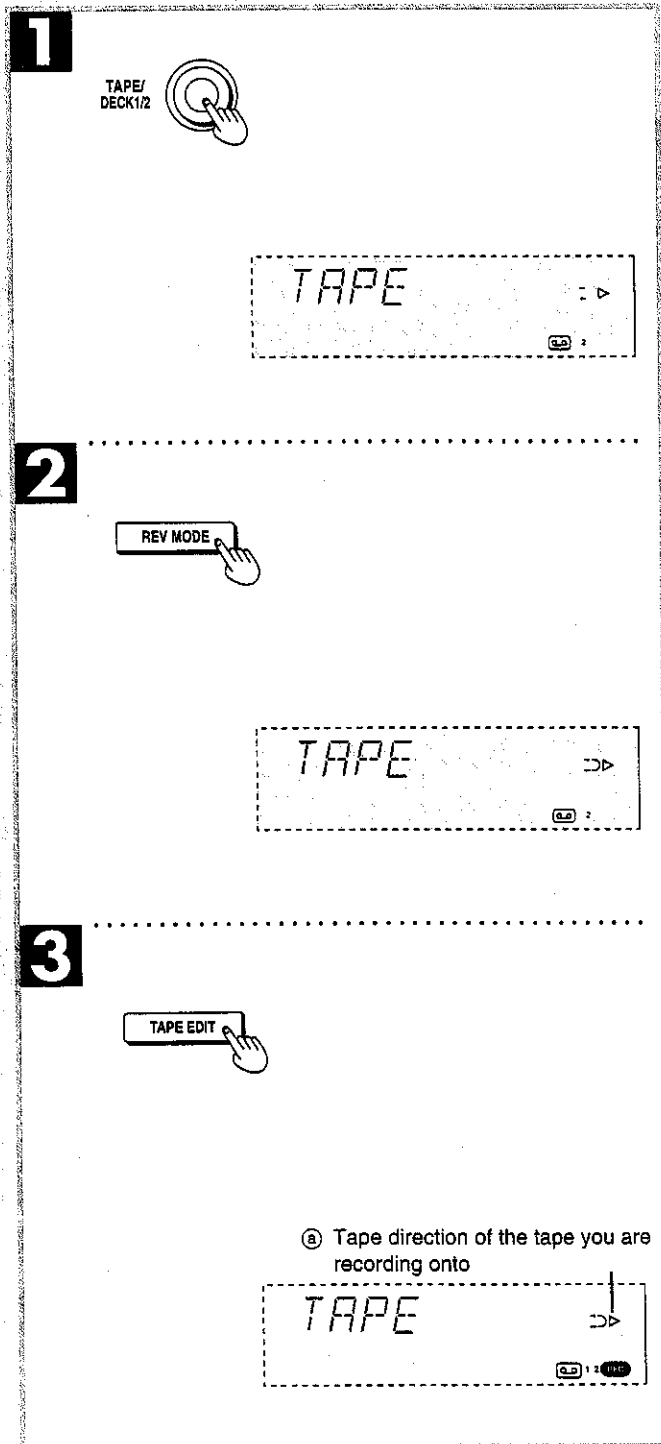
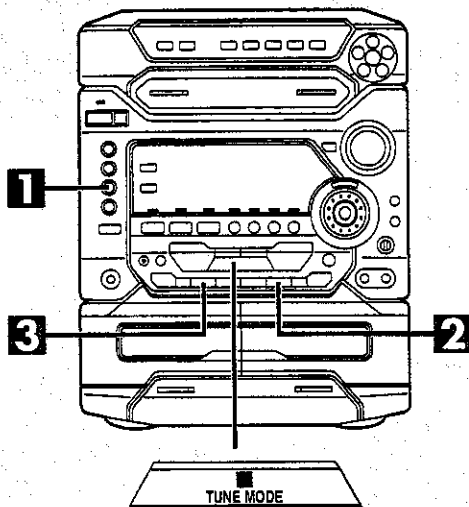
You have to turn Dolby NR ON/OFF according to the type of recording you make.

Every time you press the button: ☐ NR → (OFF)

#### 6 Press [● REC/STOP] to start recording.

#### To stop recording

- To add a 4 second silent interval before stopping Press [■]. The CD will automatically stop too.
- To stop recording without a silent interval Press [● REC/STOP]. The CD will stop automatically too.



## Tape-to-tape recording

The recording level and the Dolby effect will be recorded as they are on the tape being played back.

### Preparation:

Insert the cassettes.

For playback: into deck 1

For recording: into deck 2

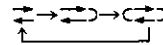
Tape direction is automatically set to "►".

Change the tape direction if you want to start recording from the reverse side. (→ page 44)

**1** Press [TAPE DECK1/2].

**2** Press [REV MODE] to select the reverse mode.

Every time you press the button;



→: One side is recorded, then recording stops automatically.

→, ←: Both sides (front side→reverse side) are recorded, then recording stops automatically.

**3** Press [TAPE EDIT] to start recording.

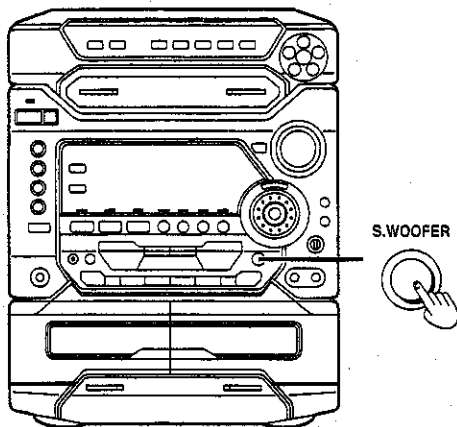
• If you selected ← in step 2, the direction will automatically change to → when recording starts.

### To stop recording:

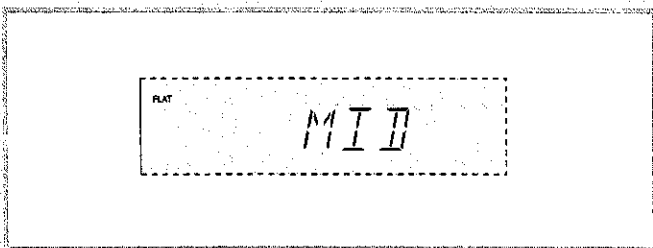
Press [■].

Both decks will stop.

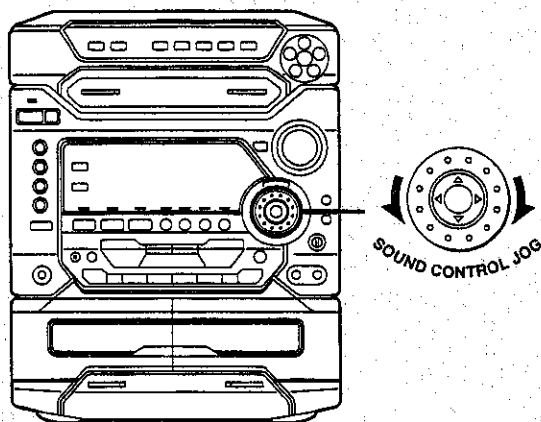
**A**



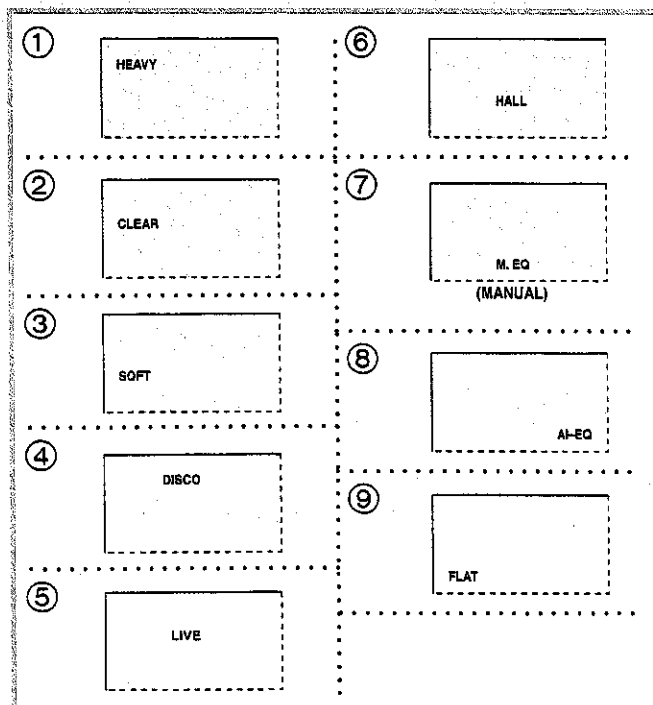
S.WOOFER



**B**



SOUND CONTROL JOG



## Boosting the super woofer

### Press [S.WOOFER].

- When listening to the sound through the speakers  
MID (medium) → MAX (high) → Light off (OFF)
- When listening to the sound through the headphones  
Light on (ON) → Light off (OFF)

### Note

All recordings are performed at the flat setting even if an alternative sound quality/sound field setting has been selected and the super woofer effect is set to ON.

## Using the built-in sound quality/sound field settings

### Turn [SOUND CONTROL JOG] to select the sound quality or sound field.

When it is turned clockwise, the settings are selected in the following sequence.

- HEAVY (sound quality)**  
Select this when playing rock or other kinds of music that sound better with an added punch.
- CLEAR (sound quality)**  
Select this for jazz or other kinds of music for which clarity in the treble range is desired.
- SOFT (sound quality)**  
Select this when listening to background music.
- DISCO (sound field)**  
Select this to produce sound with the same kind of lengthy reverberations heard at a disco.
- LIVE (sound field)**  
Select this to make vocals more alive.
- HALL (sound field)**  
Select this to add an expansiveness to the sound to produce the atmosphere of a great concert hall.
- MANUAL (see page 56)**
- AI EQ (see page 58)**
- FLAT**  
The original display is restored on the display panel in about 5 seconds.

### To release the equalizer

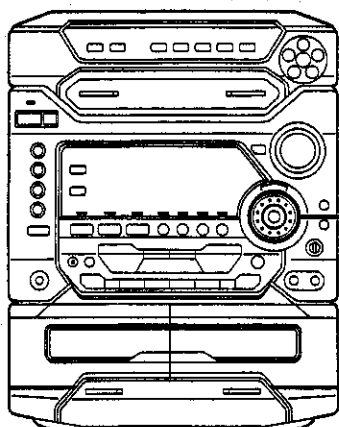
Turn [SOUND CONTROL JOG] to select "FLAT".

### When using the remote control to perform the operations described above

Press [EQ].

Each time this button is pressed, the setting is changed in the sequence described above.

## Varying the sound quality with the manual equalizer (Manual EQ)



### 1 Turn [SOUND CONTROL JOG] to select "MANUAL".

When it is turned clockwise, the settings are selected in the following sequence.

- ① HEAVY
- ② CLEAR
- ③ SOFT
- ④ DISCO
- ⑤ LIVE
- ⑥ HALL
- ⑦ **MANUAL**
- ⑧ AI EQ
- ⑨ FLAT

### 2 Adjust the sound quality.

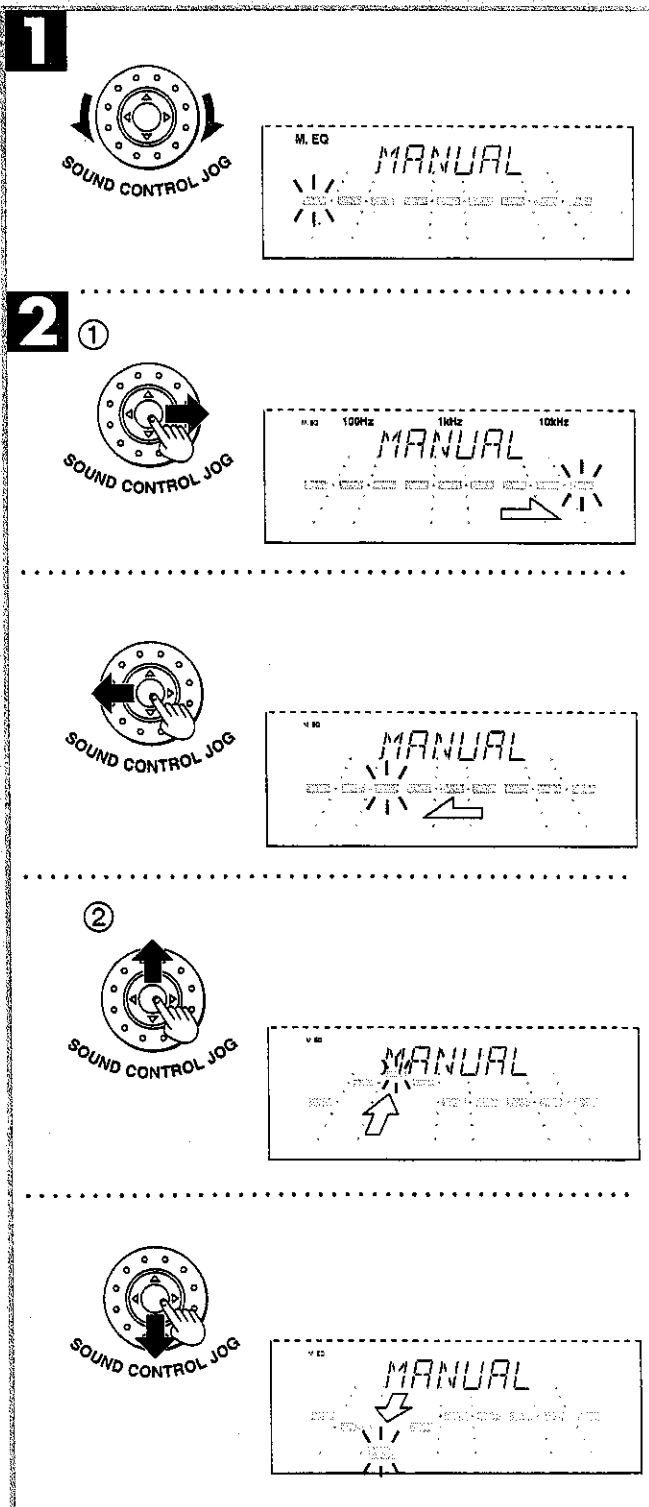
- ① ← → direction: For selecting the range of the sound to be adjusted

#### Characteristics of each sound range

- 100 Hz: Super woofer range
- Around 330 Hz: Bass to midrange
- 1 kHz: Midrange
- Around 3.3 kHz: Midrange to treble
- 10 kHz: Treble

- ② ↓ ↑ direction: For adjusting the level

Repeat steps ① and ② to set the desired sound quality. The original display is restored on the display panel in about 5 seconds.



### To release the equalizer

Turn [SOUND CONTROL JOG] to select "FLAT".

#### Note

- The sound quality setting is stored automatically. It is recalled when "MANUAL" is next selected.
- All recordings are performed at the flat setting even if an alternative sound quality setting has been selected.

## Varying the sound quality with the acoustic image (AI) equalizer (3D AI EQ)

It is possible to use the acoustic image equalizer (AI EQ) together with the surround effect to create your own sound effect.

The AI EQ equalizer uses the SOFT, SHARP, HEAVY and LIGHT sound quality coordinates to achieve subtle sound quality settings with ease.

### 1 Press [3D AI EQ] to adjust the surround level.

Everytime you press the button;

AI EQ → 3D AI1 → 3D AI2

### 2 Adjust the sound quality.

① ← → direction: SOFT–SHARP setting

② ↓ ↑ direction: LIGHT–HEAVY setting

Repeat steps ① and ② to set the desired sound quality.

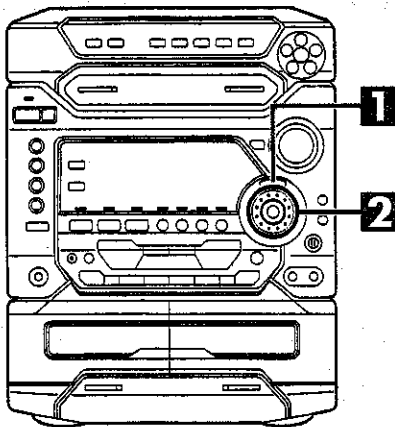
The original display is restored on the display panel in about 5 seconds.

### To release the equalizer

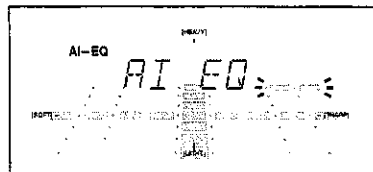
Turn [SOUND CONTROL JOG] to select "FLAT".

#### Note

- The sound quality setting is stored automatically. It is recalled when "AI EQ" is next selected.
- "3D AI1" and "3D AI2" cannot be used while the karaoke effects are in use.
- All recordings are performed at the flat setting even if an alternative sound quality setting has been selected.

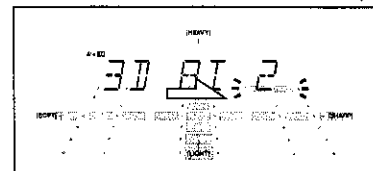
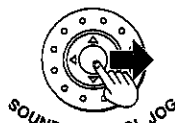
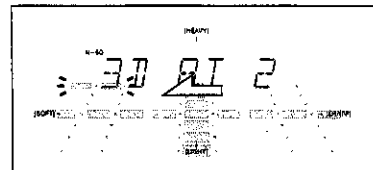


1

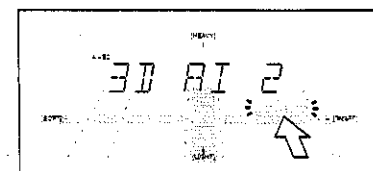
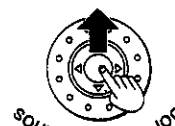
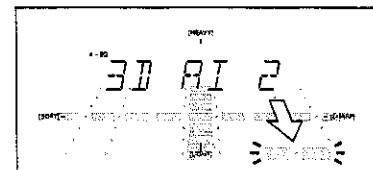
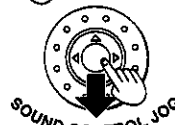


2

①





②



## Surround systems

•Select the surround mode appropriate to the source you are using. Read the following explanations to aid your selection.

Surround system	Features	Recognizing the sound sources and software that can be used			
6CH DISCRETE INPUT (Dolby Digital)	<ul style="list-style-type: none"><li>•Dolby Digital is a discrete 6 (5.1) channel surround system developed for cinema use. The sound signals in Dolby Digital format are compressed to 1/10 their original size, allowing an entire movie to be recorded on a single DVD.</li><li>•You will need a DVD player that has a built in decoder to enjoy DVDs with this unit.</li><li>•Connect a subwoofer (not included) to the line out terminal on the rear panel of this system to increase the effect.</li></ul>	<p>Discs with the following mark are recorded in Dolby Digital:</p> <ul style="list-style-type: none"><li>•DVD</li><li>•Laser Disc</li></ul> <div></div>			
DOLBY PRO-LOGIC	<ul style="list-style-type: none"><li>•This system was developed to get a better sense of presence from sources encoded with Dolby Surround.</li><li>•The feeling of position has been improved by the addition of a separate center speaker channel.</li><li>•This unit has built-in Dolby Pro-Logic circuitry so you can enjoy Dolby Surround by connecting the speakers.</li></ul>	<p>Software with the following mark is recorded in Dolby Pro Logic:</p> <ul style="list-style-type: none"><li>•Laser Disc</li><li>•DVD</li><li>•Video tape (VCR)</li><li>•CD</li></ul> <div></div> <p>This mode cannot be used with the radio and 6CH DISCRETE INPUT mode.</p>			
<table><tr><td rowspan="2">SUPER SURROUND</td><td>MOVIE mode</td></tr><tr><td>MUSIC mode</td></tr></table>	SUPER SURROUND	MOVIE mode	MUSIC mode	<ul style="list-style-type: none"><li>•This mode adds surround effects to movie software that isn't recorded with the above systems. In MOVIE mode you can adjust the volume of the surround speaker to get the best surround effect.</li><li>•This mode adds surround effects to normal music sources.</li></ul>	<p>Any general sound source can be used.</p> <ul style="list-style-type: none"><li>•CD</li><li>•TAPE</li><li>•AUX</li></ul> <p>This mode cannot be used with the radio and 6CH DISCRETE INPUT mode.</p>
SUPER SURROUND		MOVIE mode			
	MUSIC mode				
SIMULATED STEREO	<ul style="list-style-type: none"><li>•This mode adds stereo-like effects to monaural sound sources.</li></ul>	<p>Any general sound source recorded in monaural can be used.</p> <ul style="list-style-type: none"><li>•CD</li><li>•TAPE</li><li>•AUX</li></ul> <p>This mode cannot be used with the radio and 6CH DISCRETE INPUT mode.</p>			

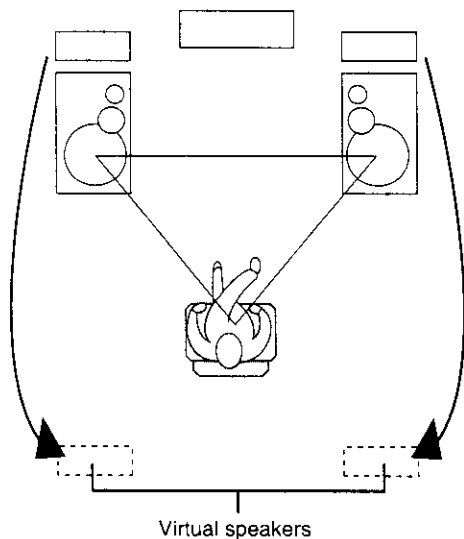
Add these audio effects to improve the experience

- Check the set-up of your speakers.

Set your speakers up to suit the surround mode you have selected to get the best surround effect.  
These modes cannot be used with the radio.

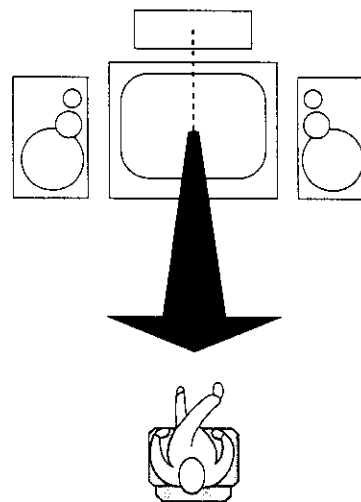
### Virtual rear surround effect

- This mode is useful if you have to place your surround speakers on the front speakers because of the room's layout.
- This mode makes it seem like the sound from the surround speakers is coming from behind you.



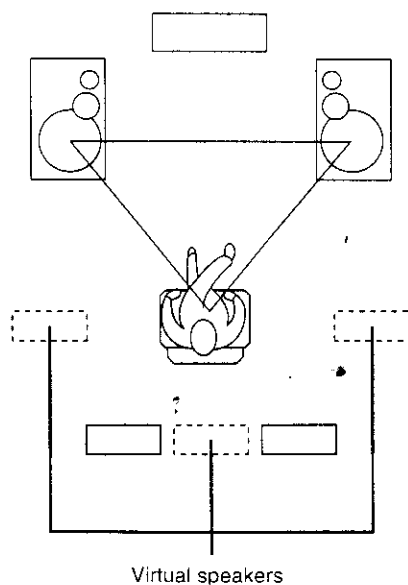
### Center focus effect

- This mode makes it seem like the sound from the center speaker channel (dialogue, etc.) is coming from within the television.
- The center speaker must be placed on top of the television.



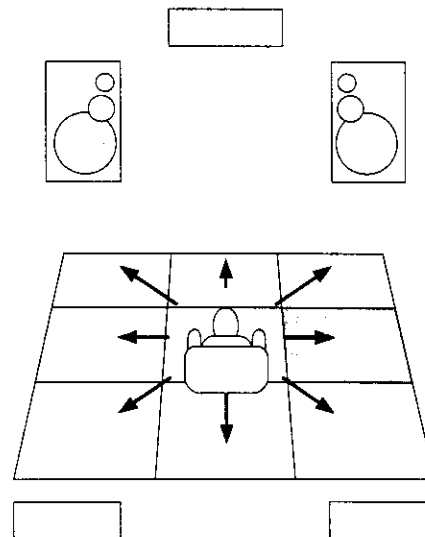
### Multi rear surround effect

- Through processing of the surround sound signals, this mode makes it seem like there are multiple surround speakers in your room.
- This mode increases the cinema-like sense of presence.



### Seat position function

- This function helps maintain the sound signal position even if the listening position itself is changed.
- It is effective when using 6CH DISCRETE INPUT, DOLBY PRO-LOGIC, or SUPER SURROUND.





## 环绕声系统

- 选择与正在使用声源相适合的环绕声模式。阅读下述说明将有助于进行选择。

环绕声系统		特点	识别声源及可以使用的软件
6CH DISCRETE INPUT (分离式6声道输入) (Dolby Digital)		<ul style="list-style-type: none"><li>杜比数字功能是为电影院使用而开发出的分离式6 (5.1) 声道环绕声系统。杜比数字格式的声音信号被压缩至其原来容量的十分之一，从而可将整部电影录制在一张DVD上。</li><li>用本机欣赏DVD影碟时，需要配置一台内装解码器的DVD放像机。</li><li>可将一亚低频扬声器（非附件）连接至本机后面板的导线输出端子上以增进声音效果。</li></ul>	<p>带有下述标记的唱片为使用杜比数字方式录制的：</p> <ul style="list-style-type: none"><li>DVD</li><li>镭射唱碟</li></ul> <div></div>
DOLBY PRO-LOGIC (杜比处理逻辑)		<ul style="list-style-type: none"><li>本系统是为了增进采用杜比环绕声编码声源的临场效果而开发出的。</li><li>通过增设一独立的中央扬声器声道而改善了位置感觉。</li><li>本机内装有杜比处理逻辑电路，因而可以连接相应的扬声器来欣赏杜比环绕声。</li></ul>	<p>带有下述标记的唱片为使用杜比处理逻辑方式录制的：</p> <ul style="list-style-type: none"><li>镭射唱碟</li><li>DVD</li><li>录像带 (VCR)</li><li>CD</li></ul> <div></div> <p>本模式不能与收音机和6CH DISCRETE INPUT（分离式6声道输入）模式同时使用。</p>
SUPER SURROUND (超级环绕声)	MOVIE (电影) 模式	<ul style="list-style-type: none"><li>此模式还可对未使用上述系统录音的电影软件追加环绕声效果。使用MOVIE（电影）模式可以调节环绕扬声器的音量来获得最佳的环绕声效果。</li></ul>	<p>可以使用任何一般的声源。</p> <ul style="list-style-type: none"><li>CD</li><li>TAPE（磁带）</li><li>AUX（辅助）</li></ul> <p>本模式不能与收音机和6CH DISCRETE INPUT（分离式6声道输入）模式同时使用。</p>
	MUSIC (音乐) 模式	<ul style="list-style-type: none"><li>此模式可以给普通的音乐声源追加环绕声效果。</li></ul>	
SIMULATED STEREO (模拟立体声)		<ul style="list-style-type: none"><li>此模式可以给单声道声源追加类似立体声的效果。</li></ul>	<p>可以以单声道录制任何一般的声源。</p> <ul style="list-style-type: none"><li>CD</li><li>TAPE（磁带）</li><li>AUX（辅助）</li></ul> <p>本模式不能与收音机和6CH DISCRETE INPUT（分离式6声道输入）模式同时使用。</p>

## نظام الصوت الفراغي المنتشر

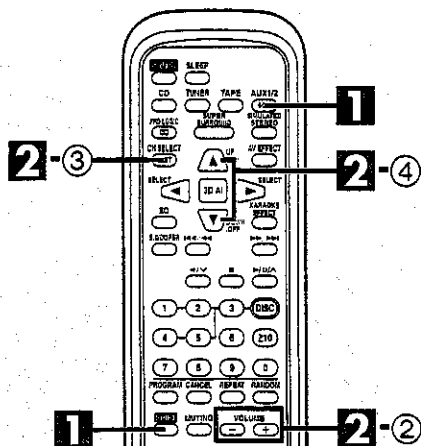
- اختر وضع الصوت الفراغي المنتشر الملائم للمصدر الذي تستخدمه. اقرأ التوضيحات التالية لمعاونتك على الاختيار.

نظام الصوت الفراغي المنتشر	المزايا	تمييز مصادر الصوت والبرمجيات التي يمكن استخدامها
6CH DISCRETE INPUT (Dolby Digital)	<ul style="list-style-type: none"><li>• دولبي ديجيتال عبارة عن نظام صوت فراغي منتشر متميز ٦ (٥. ١) قناة تم تطويره من أجل الإستخدام السينمائي. يتم ضغط إشارات الصوت في هيئة دولبي ديجيتال إلى ١/١٠ حجمها الأصلي، مما يتيح تسجيل فيلم كامل على أقراص صورة رقمية DVD واحدة.</li><li>• سوف تحتاج إلى جهاز الإستماع DVD الذي له جهاز تفسير شفرة داخلي للإستمتاع بالأقراص DVD بهذه الوحدة.</li><li>• قم بتوصيل سماعة ترددات خفيفة فرعية (غير مرفقة) إلى طرف خرج الخط بالواجهة الخلفية لهذا النظام لزيادة التأثير.</li></ul>	<p>الأقراص التي تحمل العلامة التالية تم تسجيلها في دولبي ديجيتال.</p> <ul style="list-style-type: none"><li>• أقراص صورة رقمية (DVD)</li><li>• إسطوانات الليزر</li></ul> <p><b>DOLBY DIGITAL</b></p>
DOLBY PRO-LOGIC	<ul style="list-style-type: none"><li>• تم اختيار هذا النظام للحصول على أفضل إحساس بالحضور من مصادر مشفرة بالصوت الفراغي المنتشر دولبي.</li><li>• تم تحسين إحساس الموضع بإضافة قناة سماعة وسطية منفصلة.</li><li>• لهذه الوحدة دائرة دولبي برولوجيك داخلية بحيث يمكنك الإستمتاع بالصوت الفراغي المنتشر دولبي عن طريق توصيل السماعات.</li></ul>	<p>البرمجيات التي تحمل العلامة التالية تم تسجيلها في دولبي برولوجيك:</p> <ul style="list-style-type: none"><li>• قرص ليزر</li><li>• أقراص صورة رقمية DVD</li><li>• شريط فيديو (مسجل فيديو كاسيت)</li><li>• إسطوانة مدمجة</li></ul> <p><b>DOLBY SURROUND</b></p> <p>لا يمكن إستخدام هذا الوضع مع الراديو والوضع 6CH DISCRETE INPUT.</p>
الوضع MOVIE  		

## 6CH DISCRETE INPUT mode

### Preparation:

If you have connected a subwoofer (not included), press and hold [S.WOOFER] for about 2 seconds so "SUB W ON" is shown on the display.



- 1** Hold down [SHIFT] and press [AUX1/2].  
The [6CH DISCRETE INPUT] lamp lights.

- 2** Adjust the volume of each speaker.

Sit in the normal listening position and make the adjustments with the remote control.

- ①** Output the test signal from the DVD player (not included).

Set the channel level to 0 dB on the DVD player, and adjust the channel level on this system.

- ②** Press [VOLUME (- or +)].

Set the volume to the normal listening level.

The following steps are for setting the output level of the front speakers and the other speakers to approximately the same level.

- ③** Press [CH SELECT].

Select the speaker channel to be adjusted.

L: Front speaker (Left)

R: Front speaker (Right)

C: Center speaker

RS: Surround speaker (Right)

LS: Surround speaker (Left)

SW: Subwoofer

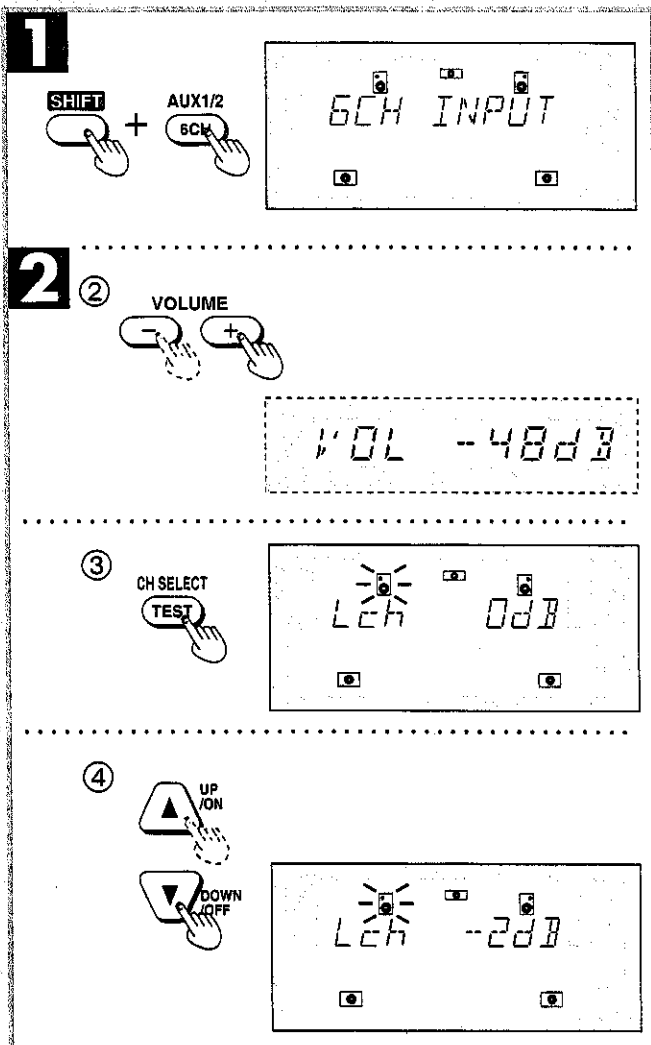
- ④** Press [▲, UP] or [▼, DOWN].

Adjust the output level

UP: Increases the output level

DOWN: Decreases the output level

Repeat steps ③ and ④ to adjust the level accordingly.



### Reference:

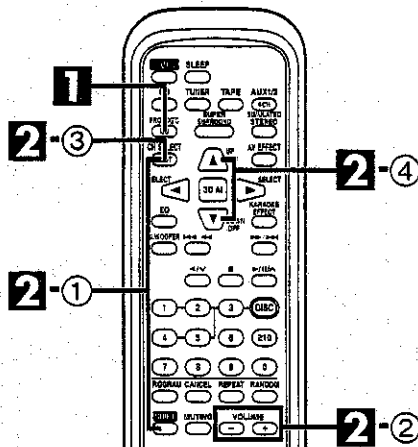
Add audio effects to improve the surround effect. (→ pages 72, 74)

### Note

You cannot record sound when [6CH DISCRETE INPUT] is selected.

To record from DVDs, reconnect the DVD player (MIXED OUT) to AUX1 or 2 terminal on this unit.

## Enjoying sound with DOLBY PRO LOGIC (DOLBY PRO LOGIC)



### 1 Press [PRO LOGIC].

The [PRO LOGIC] lamp lights.

### 2 Adjust the volume of each speaker.

Sit in the normal listening position and make the adjustments with the remote control.

#### ① Hold down [SHIFT] and press [CH SELECT].

A test signal is output.

The speaker outputting the test signal is displayed while the test is running.

L: Front speaker (Left)

C: Center speaker

R: Front speaker (Right)

S: Surround speakers

#### ② Press [VOLUME (- or +)].

Set the volume to the normal listening level.

The following steps are for setting the output level of the front speakers and the other speakers to the same listening level.

#### ③ Press [CH SELECT].

Select the speaker channel to be adjusted.

#### ④ Press [▲, UP] or [▼, DOWN].

Adjust the output level.

UP: Increases the output level

DOWN: Decreases the output level

Repeat steps ③ and ④ to adjust the level accordingly.

### To stop the test signal

Hold down [SHIFT] and press [CH SELECT] again.

### To playback a DOLBY PRO LOGIC source

### 1 Press [PRO LOGIC].

The [PRO LOGIC] lamp lights.

### 2 Playback the source.


### To turn off the DOLBY PRO LOGIC systems

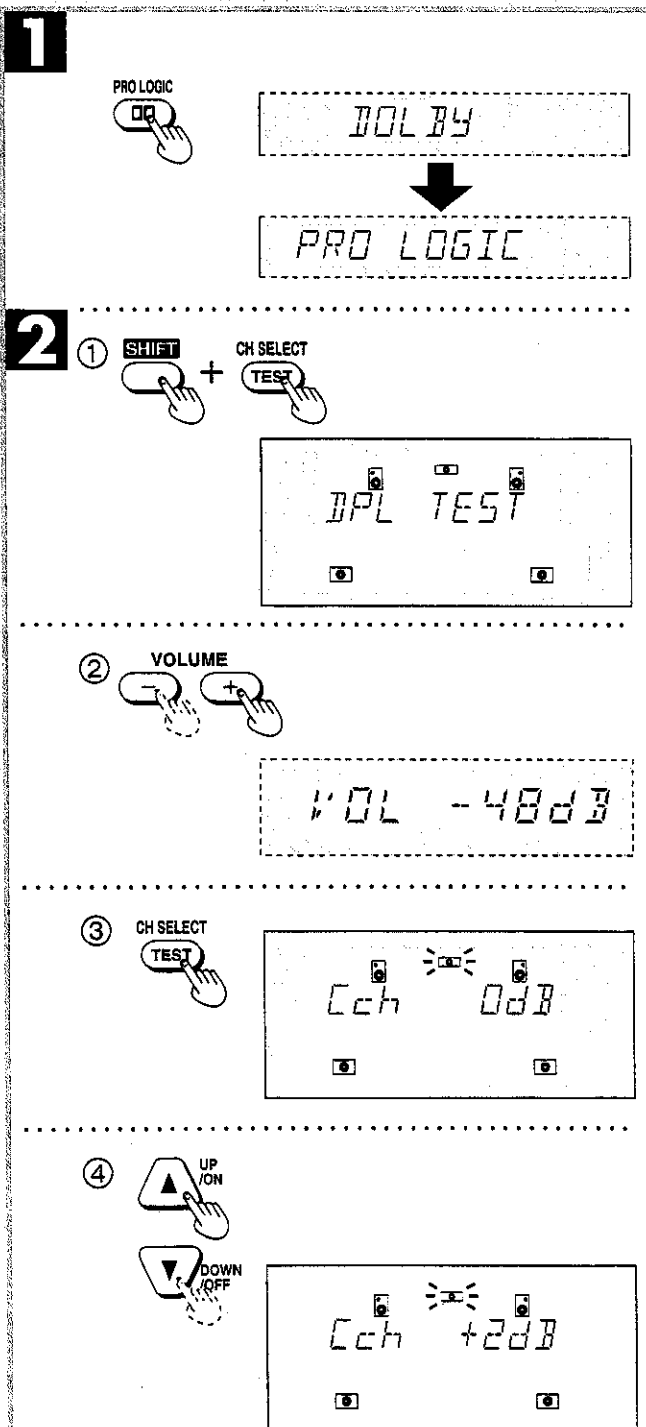
Press [PRO LOGIC].

The [PRO LOGIC] lamp goes out.

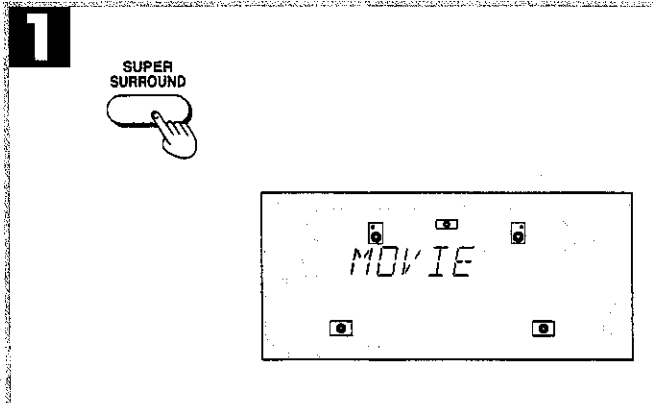
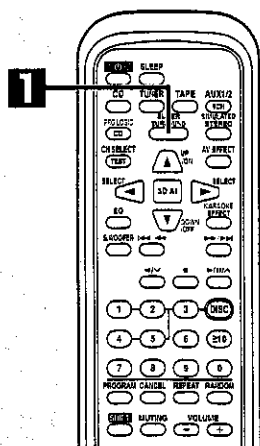
### Reference:

Add audio effects to improve the surround effect. (→ pages 72, 74)

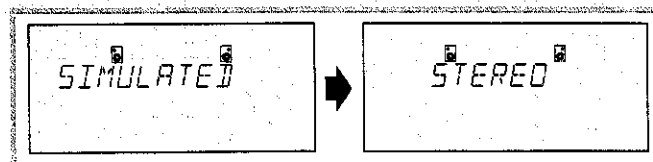
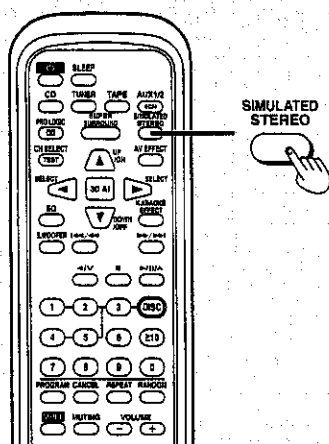
Manufactured under license from Dolby Laboratories Licensing Corporation.  
DOLBY, the double-D symbol  and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.



**A**



**B**



## Enjoying sound with stereophonics (SUPER SURROUND)

**A**

- This mode adds the 5ch surround effect to the normal stereo sources.
- SUPER SURROUND is only effective if speakers are used. No discernable effect will be heard through headphones.

**1** Press [SUPER SURROUND] and select **MOVIE** mode or **MUSIC** mode.  
Each time the button is pressed;  
MUSIC → MOVIE → NORMAL

**2** Playback the source.

### To turn off the SUPER SURROUND mode

Press [SUPER SURROUND] to select "NORMAL".

### To adjust the volume of surround speakers

You can change the output level of surround speakers manually. While enjoying the desired source:

1. Press [CH SELECT].  
The output level of surround speakers is displayed.
2. Press [▲, UP] or [▼, DOWN].  
Adjust the output level. The level can be adjusted between +6 and -10.  
UP: Increase the output level  
DOWN: Decrease the output level

### Reference:

Add audio effects to improve the surround effect. (→ pages 72, 74)

## Enjoying sound with simulated stereo (SIMULATED STEREO)

This mode adds stereo effect to monaural sources.

**Press [SIMULATED STEREO].**

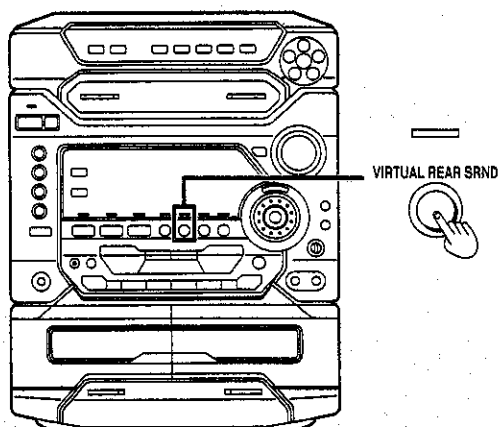
The [SIMULATED STEREO] lamp lights.

### To turn off the SIMULATED STEREO mode

Press [SIMULATED STEREO].

The [SIMULATED STEREO] lamp goes out.

**A**



## Using the virtual rear surround effect (VIRTUAL REAR SRND)

- When the surround speakers are put on the front speakers, this mode makes it seem like the sound from the surround speakers is coming from behind you.
- This mode can only be turned on or off if the "VIRTUAL REAR SRND" lamp is green. The mode cannot be used if the lamp is off.

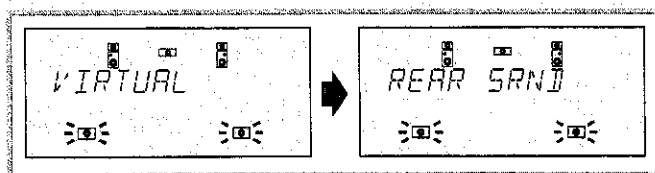
**Press [VIRTUAL REAR SRND].**

The [VIRTUAL REAR SRND] lamp lights.

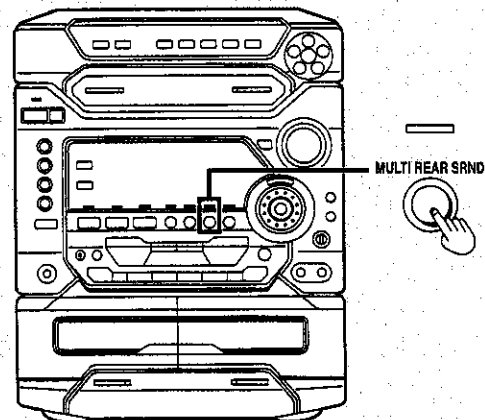
**To turn off the VIRTUAL REAR SRND mode**  
Press [VIRTUAL REAR SRND].

**With the remote control**

1. Press [AV EFFECT].
2. Press [◀] or [▶] so the [VIRTUAL REAR SRND] button flashes.
3. Press [▼] (OFF) or [▲] (ON).



**B**



## Using the multi rear surround effect (MULTI REAR SRND)

- This mode makes it seem like there are multiple surround speakers in your room.
- This mode can only be turned on or off if the "MULTI REAR SRND" lamp is green. The mode cannot be used if the lamp is off.

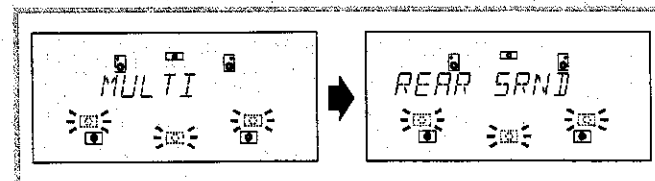
**Press [MULTI REAR SRND].**

The [MULTI REAR SRND] lamp lights.

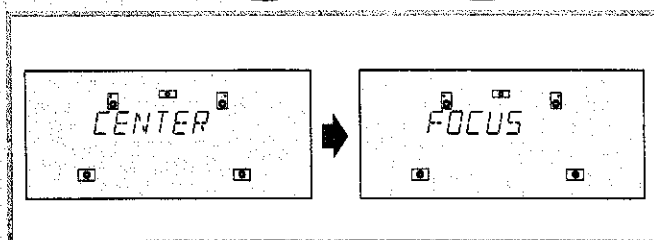
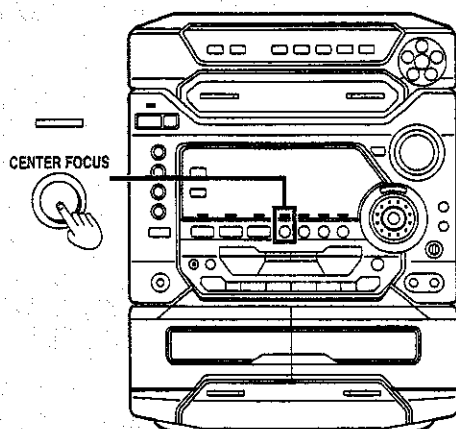
**To turn off the MULTI REAR SRND mode**  
Press [MULTI REAR SRND].

**With the remote control**

1. Press [AV EFFECT].
2. Press [◀] or [▶] so the [MULTI REAR SRND] button flashes.
3. Press [▼] (OFF) or [▲] (ON).



**A**



## Using the center focus effect (CENTER FOCUS)

- When the center speaker is put on the TV set, this mode makes it seem like the sound from the center speaker is coming from within the television.
- This mode can only be turned on or off if the "CENTER FOCUS" lamp is green. The mode cannot be used if the lamp is off.

**Press [CENTER FOCUS].**

The [CENTER FOCUS] lamp lights.

**To turn off the CENTER FOCUS mode**

Press [CENTER FOCUS].

**With the remote control**

1. Press [AV EFFECT].
2. Press [◀] or [▶] so the [CENTER FOCUS] button flashes.
3. Press [▼] (OFF) or [▲] (ON).

## Using the seat position function (SEAT POSITION)

- This function lets you adjust the listening position for better effect.
- This mode can only be turned on or off if the "SEAT POSITION" lamp is green. The mode cannot be used if the lamp is off.

**1 Press [SEAT POSITION].**

The [SEAT POSITION] lamp lights.

While the lamp is flashing change the seat position.

**2 Within 10 seconds  
Adjust the seat position.**

**To turn off the SEAT POSITION mode**

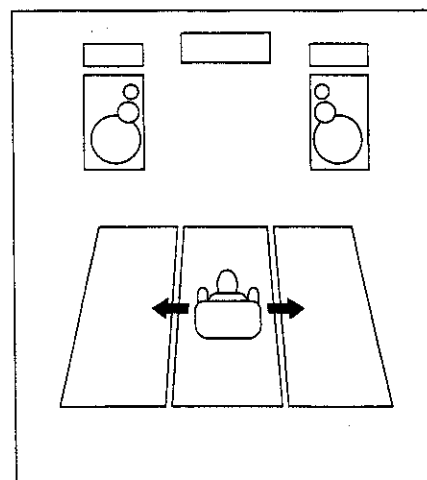
Press [SEAT POSITION] once to select the function and once again to turn it off.

**With the remote control**

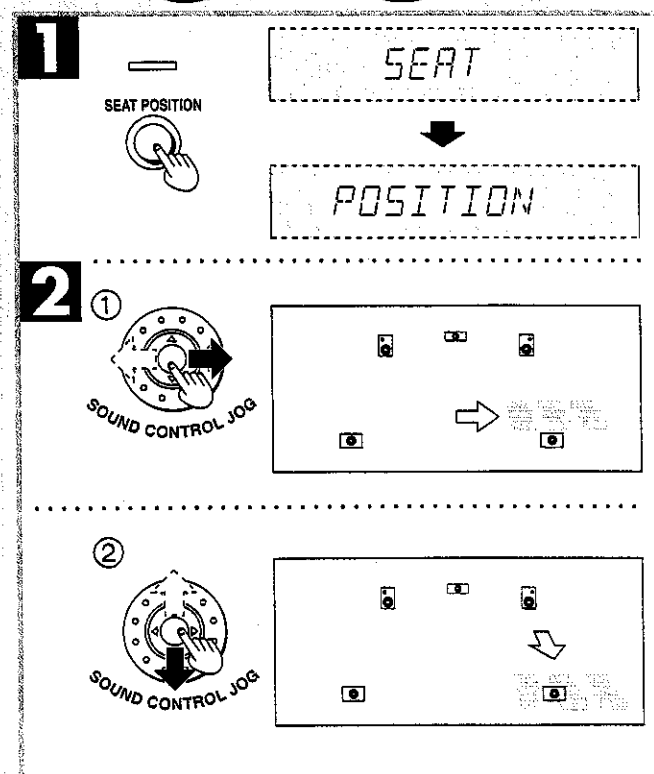
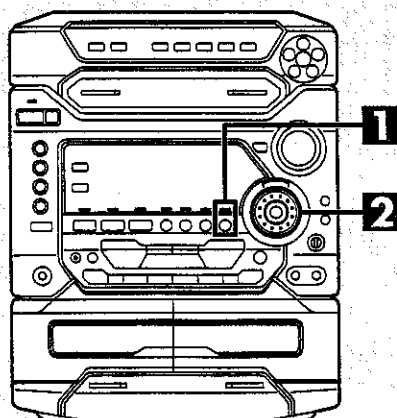
1. Press [AV EFFECT].
2. Press [◀] or [▶] so the [SEAT POSITION] button flashes.
3. Press [▲] (ON).
4. Press [◀], [▶], [▼], or [▲] to adjust the seat position.

### Note

When used with virtual rear surround, seat position is changed in 3 horizontal steps.

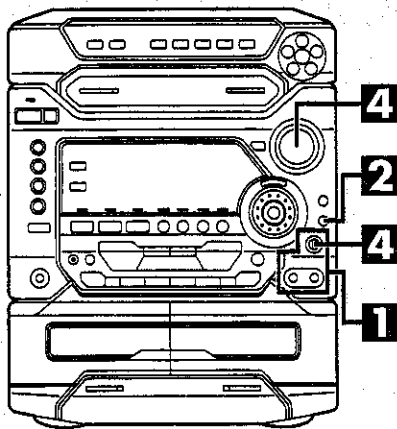


**B**



## Singing along with KARAOKE

This system lets you enjoy KARAOKE with audio CDs and audio tapes. (Karaoke cannot be done to the radio or when the unit is in 6CH DISCRETE INPUT mode.)



### 1 ① Lower volume with [MIC VOL].

#### ② Connect the microphone(s).

Plug type: 3.5 mm monaural

### 2 Press [KARAOKE] to select the voice mode.

Every time you press the button;  
V • MUTE → MONO L → MONO R  
↑ (OFF)

#### Voice mode selection

If you want to play with the KARAOKE function, check first whether or not your software is formatted for KARAOKE and then select the voice mode as indicated below.

○: Appropriate  
●: For practice, etc.

Soft-ware Voice modes	KARAOKE		Non-KARAOKE
	Sound multiplex	Stereo	
(OFF)	● (Background music & Voice)	○	● (For singing along)
V • MUTE	—	—	○
MONO L	○ (Background music)	—	—
MONO R	● (Voice)	—	—

#### Note

A bar is indicated in the above table when the voice mode is least effective. It is better to avoid using the mode in such cases.

#### V.MUTE function

The voice portion of the track is blocked out but not the background music.

You need software recorded in stereo sound if you want to use the voice mute function. Voice and/or static may be reproduced with the following types of software.

- Software recorded in monaural
- Classical music, or works performed by a limited number of instruments
- Chorus works or duets

### 3 Start the source (CD, etc.).

### 4 ① Adjust volume with [VOLUME] and [MIC VOL].

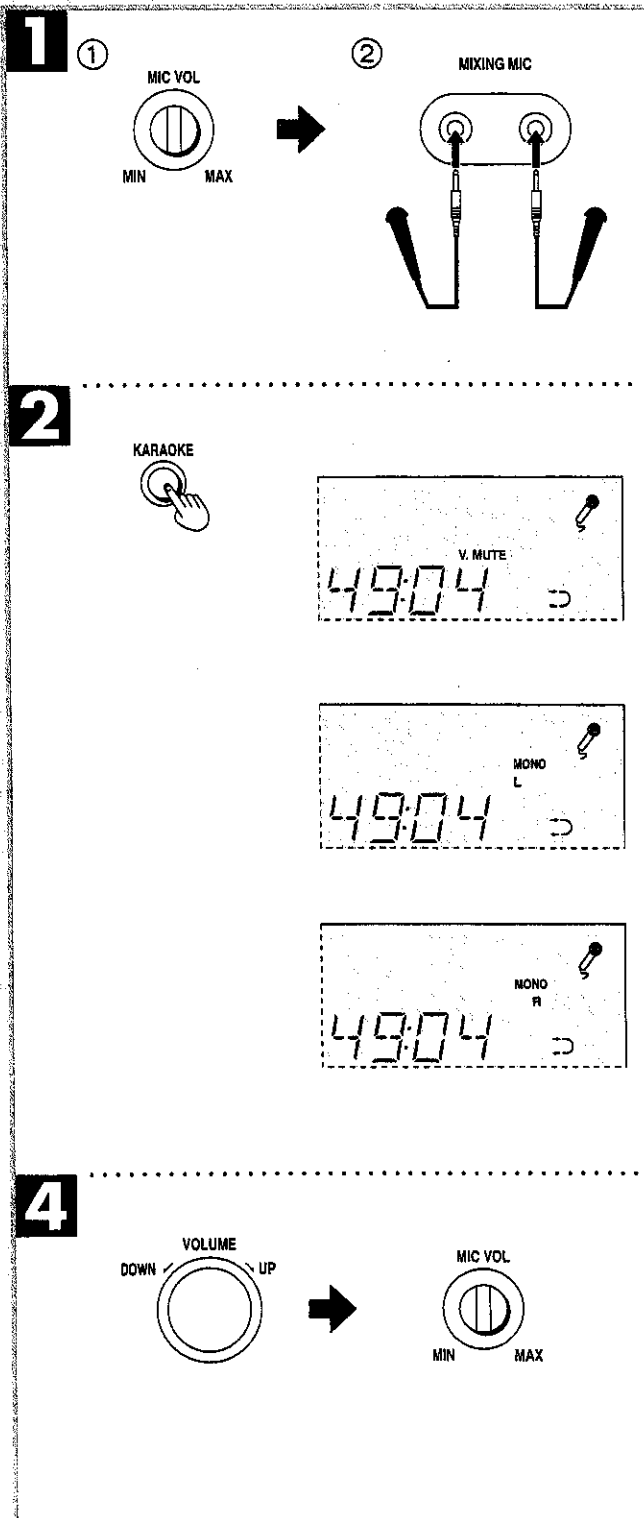
#### ② Sing along.

#### To cancel the KARAOKE

Press [KARAOKE] to select "(OFF)" mode.

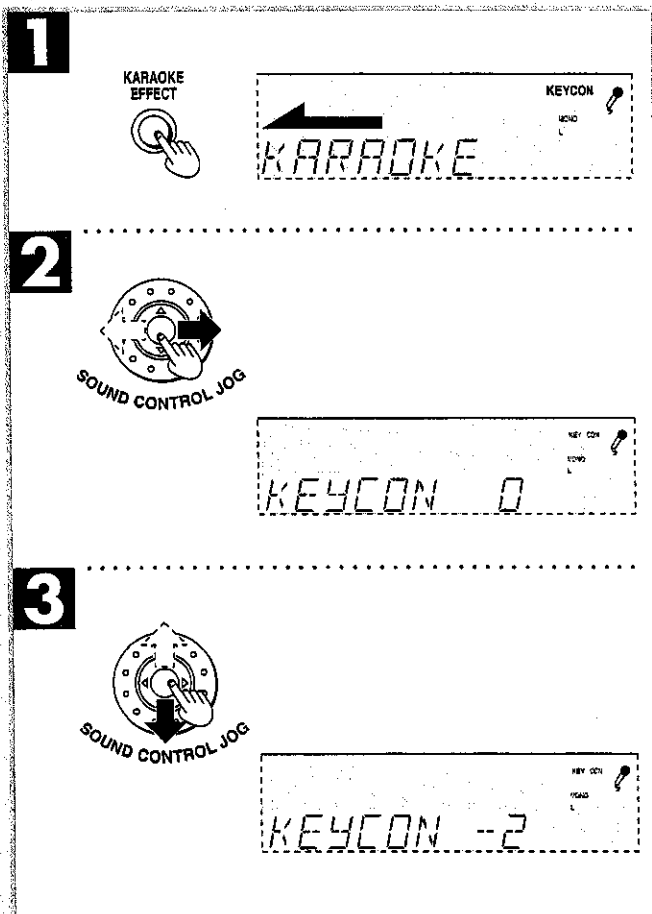
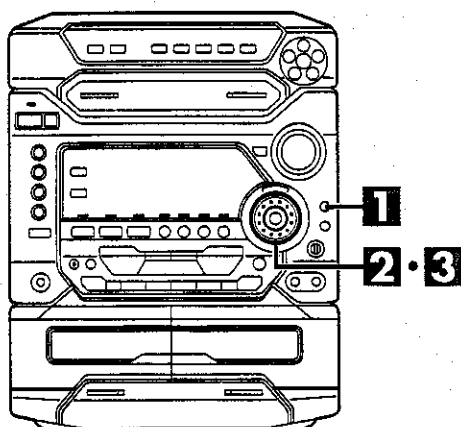
#### Note

- If a strange noise (squealing or howling) is emitted during use, move the microphone away from the speakers, or turn down the microphone volume.
- When you are not using the microphone, disconnect it from the MIC jack, and turn down the microphone volume level to MIN.
- Sound quality and sound field can be adjusted when using KARAOKE but recording will be unaffected.

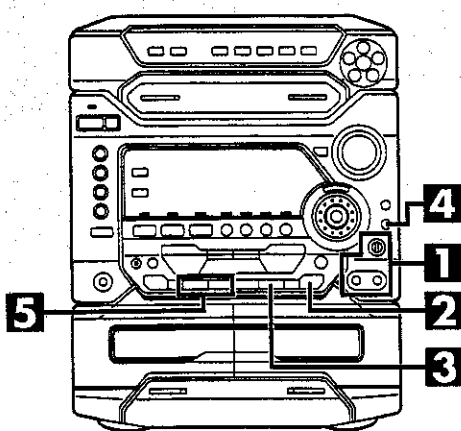




**A**



**B**



## Singing along with KARAOKE

### Adding effects to your karaoke (KARAOKE EFFECT)

As well as adjusting the key, you can also add echo, make it sound like you are singing in a karaoke bar, or like you have a chorus singing along with you.

- 1** Press [KARAOKE EFFECT].
- 2** Select the desired KARAOKE EFFECT mode.  
KEYCON ↔ ECHO ↔ CHORUS ↔ LOUNGE  
↑  
KEYCON: To change the key  
ECHO: To adjust the reverberation sound  
CHORUS: To add voices staggered slightly from the singer, giving the effect of singing in a chorus  
LOUNGE: To output voices from all speakers, giving the effect of singing at a karaoke bar
- 3** Select the level of the effect.  
KEYCON: -3 ↔ -2 ↔ -1 ↔ 0 ↔ +1 ↔ +2 ↔ +3  
ECHO: 1 ↔ 2 ↔ 3 ↔ OFF  
↑  
CHORUS: 1 ↔ 2 ↔ OFF  
↑  
LOUNGE: 1 ↔ 2 ↔ 3 ↔ OFF  
↑

To cancel the KARAOKE effect mode  
Press [KARAOKE EFFECT].  
The current mode is displayed. Press again to cancel the mode.

**Reference:**  
Karaoke effect cannot be done to the radio or when the unit is in 6CH DISCRETE INPUT mode.

### To record your "KARAOKE" performance

- 1** ① Lower volume with [MIC VOL].  
② Connect the microphone(s).
- 2** Press [▲ DECK 2 OPEN] and insert the tape.  
Close the holder by hand.
- 3** Press [REV MODE] to select the reverse mode.
- 4** Press [KARAOKE] to select the voice mode.
- 5** Start recording and KARAOKE performance.
  - When singing off CDs  
Press [● REC/STOP] and start KARAOKE performance.
  - When singing off tapes  
Press [TAPE EDIT] and start KARAOKE performance.

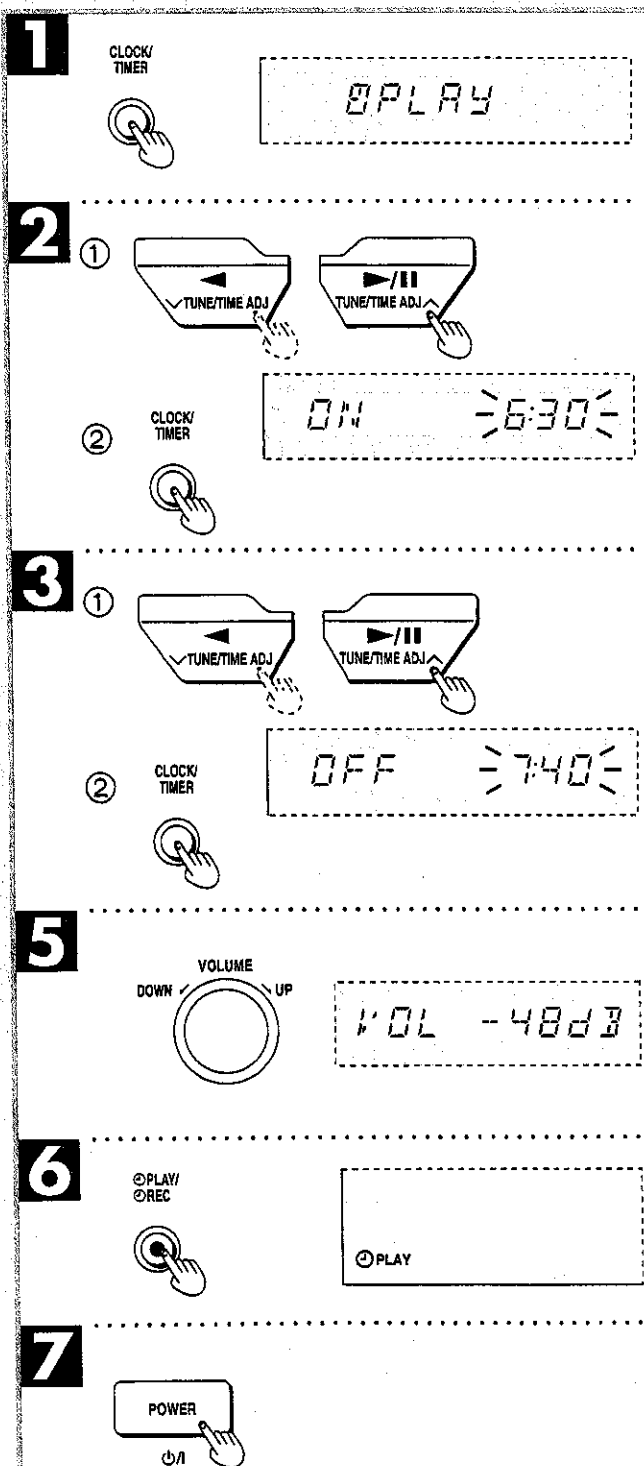
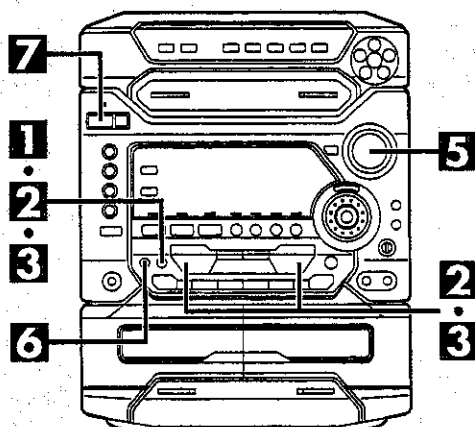
#### Note

- To playback the recorded tape, be sure to press [KARAOKE] to select the "(OFF)" mode.
- You cannot play or record KARAOKE with [TUNER] or [6CH DISCRETE INPUT] backing.

### To record your voice

- Do steps **1** to **3** above.
1. Press [TAPE].
  2. Press [● REC/STOP] to start recording.
  3. Speak through the microphone and adjust volume with [VOLUME] and [MIC VOL].

## Using the timer



## Using the play timer

### Preparations

- Switch on the power.
- Make sure that you have completed "Setting the time" on page 24.

The figure shows how to set the play timer to play from 6:30 to 7:40.

### 1 Press [CLOCK/TIMER] to select "⊙ PLAY".

Every time you press the button;

CLOCK → ⊙ PLAY → ⊙ REC

← Previous display →

### 2 "ON" time setting

(Within 8 seconds or so)

- 1 Press [TUNE/TIME ADJ (v or ^)] to select the starting time.
- 2 Press [CLOCK/TIMER].

### 3 "OFF" time setting

- 1 Press [TUNE/TIME ADJ (v or ^)] to select the ending time.
- 2 Press [CLOCK/TIMER].

### 4 Source selection

Select the desired source and then prepare for playing.

To play CD(s)

Press [CD] and insert CD(s).

If more than 1 CD is loaded

Press [DISC 1]–[DISC 5] to select the CD you want to hear first, and press [■].

#### Note

Disc selection does not become part of the timer memory.

To play tape(s)

Press [TAPE] and insert tape(s).

If tapes are loaded in both decks, playback will start from deck 2.

To play the radio

Press [TUNER] and tune in the desired station.

To play the external unit

Press [AUX1/2] or [6CH DISCRETE INPUT].

### 5 Play volume setting

Turn [VOLUME] to adjust the playback volume.

### 6 Press [⊙ PLAY/⊙ REC] to select "⊙ PLAY".

Every time you press the button;

⊙ PLAY → ⊙ REC

← (OFF) →

### 7 Press [POWER] to switch off the power.

The timer play will start at the preset time with volume increasing gradually up to the volume level you preset.

#### To switch the timer OFF

Press [⊙ PLAY/⊙ REC] and check "⊙ PLAY" goes out.

## Using the timer

### Using the record timer

#### Preparations

- Switch on the power.
- Make sure that you have completed "Setting the time" on page 24.

Set the timer at least 2 minutes before you want to start recording.

The figure shows how to set the record timer for recording from 18:30 to 20:00.

#### 1 Press [CLOCK/TIMER] to select "⊙ REC".

Every time you press the button;

CLOCK → ⊙ PLAY → ⊙ REC

↑ Previous display ←

#### 2 "ON" time setting

(Within 8 seconds or so)

- 1 Press [TUNE/TIME ADJ (v or ^)] to select the starting time.
- 2 Press [CLOCK/TIMER].

#### 3 "OFF" time setting

- 1 Press [TUNE/TIME ADJ (v or ^)] to select the ending time.
- 2 Press [CLOCK/TIMER].

#### 4 Source selection

Select the desired source and then prepare for recording.

To record from the radio

Press [TUNER] and tune in the desired station.

To record the external unit

Press [AUX1/2].

#### Note

You cannot record sound when [6CH DISCRETE INPUT] is selected.

#### 5 Prepare for recording.

1. Insert a tape into deck 2 with the side on which the recording will start facing you.
2. Select Dolby NR.
3. Select the reverse mode.

#### Note

Dolby NR and reverse mode do not become part of the timer memory.

#### 6 Press [⊙ PLAY/⊙ REC] to select "⊙ REC".

Every time you press the button;

⊙ PLAY → ⊙ REC

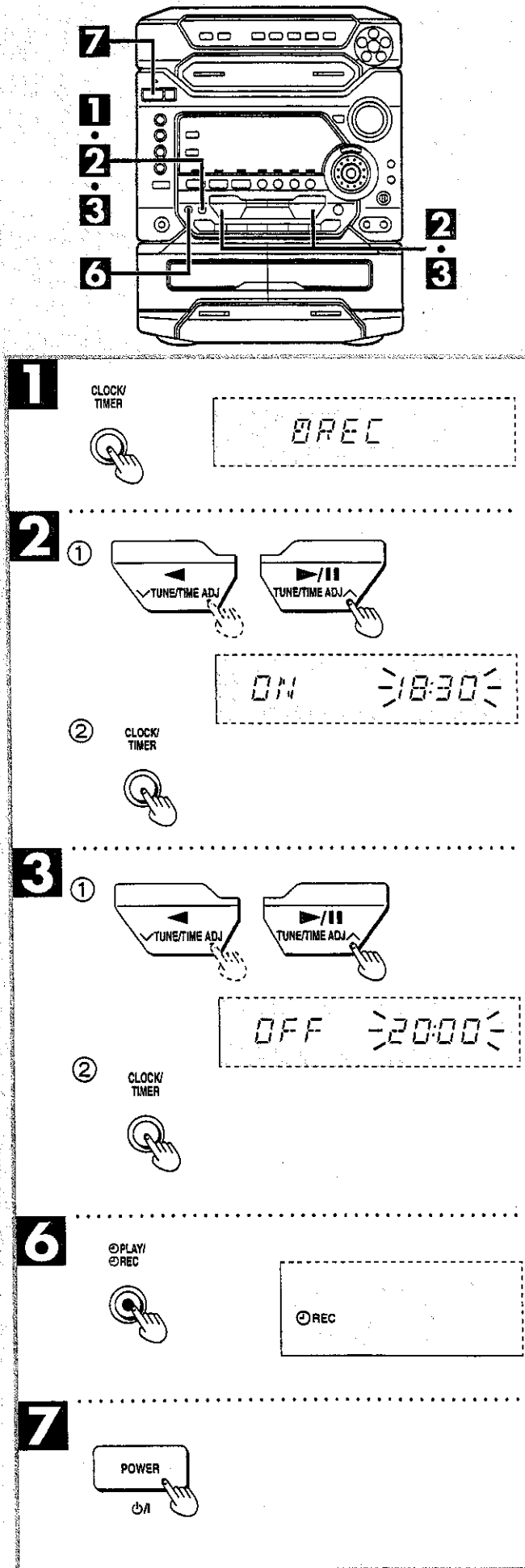
↑ (OFF) ←

#### 7 Press [POWER] to switch off the power.

About 30 seconds before the set time, the stereo mutes all sound automatically.

#### To switch the timer OFF

Press [⊙ PLAY/⊙ REC] and check "⊙ REC" goes out.



## Using the timer

### Using the play/record timer

If you set the timer incorrectly  
Repeat the procedure from step 1.

#### To check settings

While the unit is on and the "Ⓢ PLAY" (or "Ⓢ REC") indicator is on, press [CLOCK/TIMER] so "Ⓢ PLAY" (or "Ⓢ REC") appears on the display.

Two seconds after "Ⓢ PLAY" (or "Ⓢ REC") appear, the settings are displayed in the following order.

#### •For play timer

- ① Play start time
- ② Play end time
- ③ Play source
- ④ Playback volume

#### •For record timer

- ① Recording start time
- ② Recording end time
- ③ Recording source

#### To enjoy the desired source after the timer setting is completed

The volume level and music source are stored in the timer memory and the timer will start in these preset conditions. However the Disc number, Dolby NR and reverse mode do not get stored in the timer memory.

1. After step 7, turn on the unit and start playing the desired source.
2. Reset the Disc number, Dolby NR and reverse mode if you have changed any of them, confirm that a Disc or cassette is inserted, then press [POWER] to put the unit on standby.

#### Turning the timer ON/OFF

One of the timers is on when the [Ⓢ PLAY/Ⓢ REC] button is alight. When the unit is on (or off and in NORMAL mode) you can confirm which is on by checking which indicator is on the display.

When the unit is off and in ECO mode, press [CLOCK/TIMER]. The display will then show which timer is on and the settings that have been made (see above).

To change the timer, press [Ⓢ PLAY/Ⓢ REC].

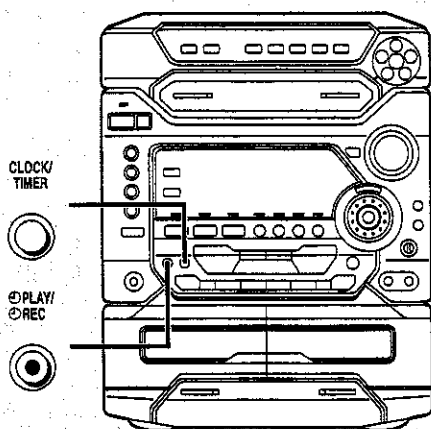
Each time the button is pressed the setting changes as follows.

Ⓢ PLAY → Ⓢ REC → (off)

↑

#### Note

- If the power is on, the timer will not function. The system must be in the standby mode.
- If you switch the power to the standby mode while the play/record timer is functioning, the OFF time setting will not be activated.
- If "AUX1/2" or "6CH DISCRETE INPUT" is selected as the source, when the timer comes ON, the system will turn ON and will engage "AUX1/2" or "6CH DISCRETE INPUT" as the source. If you want to playback or record from a connected component, set the component's timer to the same time. (See the instruction manual that came with the component.)
- The play timer cannot be used in combination with the record timer.



## Using the timer

### Using the sleep timer

This timer turns power to your system OFF at the set time (Max. 2 hours, settable at 30 minute intervals). It lets you fall asleep listening to music.

**by remote control only**

The figure shows how to set the system to standby mode after 30 minutes.

**While enjoying the desired source:**

**Press [SLEEP] to select the desired time.**

Every time you press the button;

→30→60→90→120→OFF

The system is turned off after the set time has elapsed.

**To cancel the sleep timer:**

Press [SLEEP] to select "OFF".

**To confirm the remaining time:**

(only while power is ON)

Press [SLEEP].

**To change the time remaining during operation:**

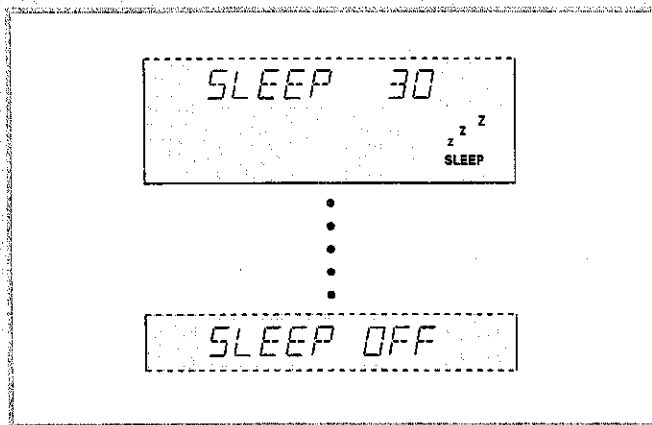
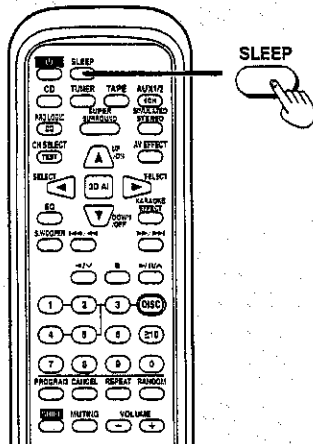
Press [SLEEP] to show the remaining time then press [SLEEP] to select the desired time.

#### Note

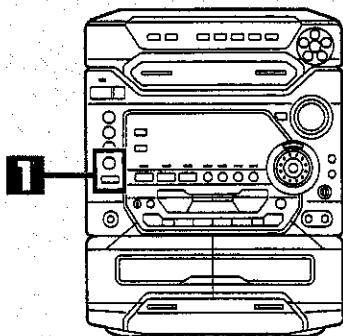
- The sleep timer turns OFF automatically the moment you attempt to edit-record a CD using CD Manager function.
- The sleep timer can be used in combination with the play/record timer.

The sleep timer always has priority.

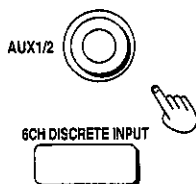
Be sure not to overlap timer settings.



**A**

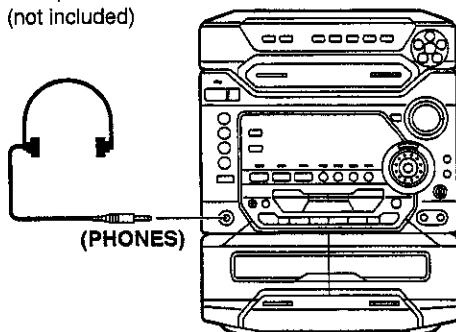


**1**

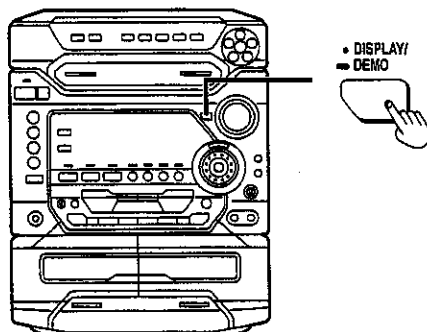


**B**

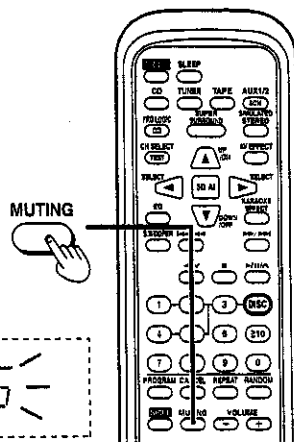
ⓐ Headphones  
(not included)



**C**



**D**



## Using an external unit

### Listening to an external source **A**

(See page 16 for external unit connection.)

- 1** Press [AUX1/2] or [6CH DISCRETE INPUT].  
The power will come on automatically.
- 2** Start playback from the external source. (For details, refer to the owner's manual of the equipment.)

### Recording from an external source

- 1.** Press [▲ DECK 2 OPEN] and insert the tape.  
Close the holder by hand.
- 2.** Press [DOLBY NR].  
You have to turn Dolby NR ON/OFF according to the type of recording you want to make.
- 3.** Press [REV MODE] to select the reverse mode.
- 4.** Press [AUX1/2] to select the external source.
- 5.** Press [● REC/STOP].  
Recording starts.
- 6.** Start playback from the external source.  
(For details, refer to the owner's manual of the equipment.)

You cannot record sound when [6CH DISCRETE INPUT] is selected.

### Listening with headphones **B**

Reduce the volume level, and connect the headphones.  
Plug type: 3.5 mm stereo

#### Note

Avoid listening for prolonged periods of time to prevent hearing damage.

## Convenient functions

### Switching displays **C**

Press [-DISPLAY/-DEMO] to select the desired spectrum analyzer.

Every time you press the button;  
Aurora → (OFF) → Normal  
↑ Peak hold ←

### To mute the volume **D**

by remote control only

This feature is convenient when you have a telephone call, etc.

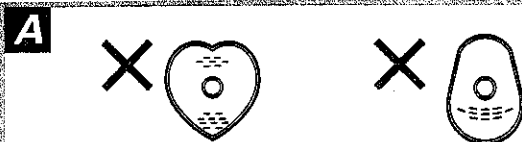
Press [MUTING].

Press the button again to cancel.

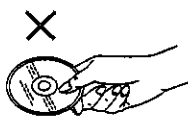
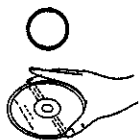
"MUTING" goes out.

Muting can also be cancelled by lowering the volume all the way (-dB).

When the system is turned off, the muting operation will be automatically cancelled.

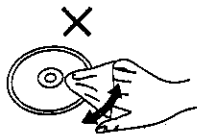
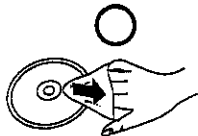


**B** How to hold CDs  
CD 的拿放方法  
كيفية رفع إسطوانة مدمجة



Do not touch the recorded surface.  
勿触摸录音表面  
لا تلمس السطح المسجل عليه

**C** How to clean CDs  
CD 的清洁方法  
كيفية تنظيف إسطوانات مدمجة



Wipe from inside outward.  
从内向外擦拭。  
إمسح من الداخل إلى الخارج

**D** How to take up tape slack  
拧紧松弛磁带的方法  
كيفية التخلص من الارتخاء

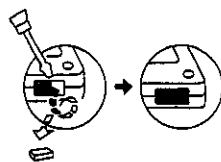
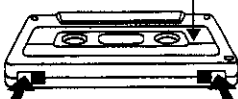


**E**

Side A  
A 面  
A جانب

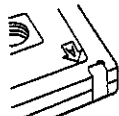
Tab for side "B"  
B 面用卡  
B لسان

Tab for side "A"  
A 面用卡  
A لسان



To re-record  
转录  
إعادة التسجيل

Normal position tape  
普通磁带  
شريط موقع اعتيادي



Hi-position tape  
高级磁带  
شريط موقع عالي



Detection hole  
探测孔  
ثقب التمييز

## Concerning compact discs

With this player, you can only play compact discs having this mark.  
However, do not use irregular shape CDs. CDs of the sort can damage the unit. **A**



### Handling precautions B-C

- If you are taking the disc from a cold to a warm environment, moisture may form on the disc. Wipe this off with a soft, dry, lint-free cloth before using the disc.
- Do not write on the label side with a ball-point or other writing instrument.
- Do not use record cleaning sprays, benzene, thinner, static electricity prevention liquids or any other solvent.
- Do not attach labels or stickers to CDs. (Do not use CDs with exposed adhesive from tape or left over peeled off stickers.)
- Do not use scratch-proof protectors or covers other than those specified for use with this system.

### Storage precautions

Be sure to store discs in their cases to protect them from dust, scratches, and warping.

**Do not place or store discs in the following places**

- Locations exposed to direct sunlight
- Humid or dusty locations
- Locations directly exposed to a heat vent or heating appliance
- In the glove compartment or on the rear deck of an automobile

## Concerning cassette tapes

### Selection of cassette tapes

Tapes can get caught on the capstans. Use caution with the following types of tapes.

**Cassette tapes exceeding 100 minutes**

Tapes are made of a thin film material. Do not repeatedly advance and stop the tape, fast-forward it or rewind it.

**Endless-tapes**

For this unit, it is recommended to use the tape which is appropriate to the auto reverse mechanism.

Always read the instructions provided with your tapes.

### Tape slack D

Tape slack may cause the tape to break.  
Use a pencil or similar object to take up the slack.

### Erase prevention E

Use a screwdriver or similar object to break out the tab.

**To re-record on a protected cassette**

Cover the hole with adhesive tape  
Do not cover the detection hole on hi-position tapes

### Storage precautions

**Do not place or store tapes in the following places;**

- In high temperature (35°C or higher) or high humidity (80% or higher) areas
- In a strong magnetic field (near a speaker, on top of a TV, etc.) This can erase a recording.
- Locations exposed to direct sunlight.

## Troubleshooting guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions.

Problem	Probable cause(s)	Suggested remedy	Reference page(s)
---------	-------------------	------------------	-------------------

### Problems common to all systems

ECO mode is on but the display panel still lights up.	DEMO mode is on.	Turn DEMO mode off.	22
The location of the various musical instruments is not well defined.	The (+) and (-) connections to one of the speakers are reversed.	Connect the speaker cords correctly.	10, 12
The left and right sounds are reversed.	The left and right connections to the speaker are reversed.	Connect the speaker cords correctly.	10, 12
LOW frequency sounds cannot be heard.	Either the left or the right LOW speaker cable is not connected.	Connect the left and right speaker cables to the LOW terminals.	10
When listening to the external unit, the left and right sounds are reversed.	The left and right connections to the external unit are reversed.	Connect the external unit's cord correctly.	16
There is no sound when a source is being played.	The (+) and (-) wire of the speaker cords are shorted.	Switch the system to the standby mode, and reconnect the speaker cords so that they are not shorted. Then switch on the power.	10
"ERROR" message appears on the display.	Wrong operation has been done.	Operate the unit correctly by following the operating instructions.	24
"---:---" appears on the display.	<ul style="list-style-type: none"> <li>You plugged the power cord in for the first time.</li> <li>There was a power failure recently.</li> </ul>	Set the time.	
"F61" appears on the display.	Check if the speaker cords have shorted.	If they are not shorted then there is a power supply problem. Consult your dealer for assistance.	

### While listening to FM broadcasts

There is a "rushing noise" during a stereo broadcast which is not audible during a monaural broadcast.	The transmitting station is distant.	If you are using an indoor antenna, change to an outdoor antenna.	14
You hear excessive noise during a stereo broadcast, and occasionally the sound disappears.	The installation location and orientation of the antenna are unsuitable.		
The stereo indicator ("STEREO") flickers and does not light completely.	The transmitting station is distant. The power of the TV set or VCR is ON.		
The sound during a stereo broadcast is highly distorted.	There is a building or mountain nearby. [Distortion is caused by interference between the signal from the transmitting station (direct wave) and the signal reflected from the building or mountain (reflected wave).]	Use a high-grade outdoor antenna, and install it in a good location, height, and orientation for reception.	14

### While listening to AM broadcasts

You hear an unusual beat sound.	You are using the system at the same time you are playing a TV set.	Switch off the TV set, or use the system further away from it.	
You hear a low-frequency hum.	The antenna wire is near the power cord.	Separate the antenna wire from the power cord.	



Problem	Probable cause(s)	Suggested remedy	Reference page(s)
---------	-------------------	------------------	-------------------

#### When there is a television set nearby

The picture on the TV disappears or stripes appear on the screen.	The location and orientation of the antenna are incorrect.	If you are using an indoor antenna, change to an outdoor antenna.	14
	The wiring at the back of the system is unsuitable.	Separate the antenna wire of the TV set from the system.	

#### When listening to tapes

Sound is low, intermittent, poor quality, noisy, scratchy, or unsteady.	Heads are dirty.	Clean the heads.	93
	Dolby NR is set incorrectly.	Match Dolby NR ON/OFF according to the type of recording you made.	40
The deck does not enter the recording mode.	The erase-prevention tabs have been removed from the cassette.	Attach tape to cover the space left by removal of the erase-prevention tabs.	90

#### While listening to compact discs

The display does not show the correct indication. Disc play does not start when you press the play button.	The disc is upside down.	Set the disc with the label facing upward.	30
	The disc is dirty.	Wipe the disc with a soft cloth.	90
	The disc is scratched.	Replace the disc with a new one.	
	The disc is badly warped.		
	The disc is a nonstandard one.	Replace the disc with a different one.	90
	There is condensation inside the CD changer.	Wait for 60 minutes before using CDs.	
A certain music passage can't be played correctly.	The disc is dirty.	Wipe the disc with a soft cloth.	90
"TAKE OUT/ DISC" appears on the display.	There is a problem with the CD mechanism. (A power failure may be occurred.)	The tray will open automatically. Remove the CD from the tray, and after ensuring there is no CD in the tray close it. The unit will make the disc changing noises for a few moments and then it should operate normally.	

#### While using the remote control

The system cannot be operated with the remote control.	The batteries are installed in the reverse polarity.	Re-insert the batteries in the correct polarity.	6
	The batteries are run-down.	Replace the batteries with new batteries.	6

## Maintenance

#### If the surfaces are dirty

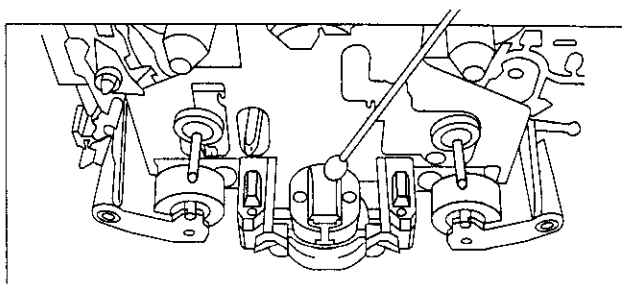
To clean this unit, wipe with a soft, dry cloth.

If the surfaces are extremely dirty, use a soft cloth dipped in a soap-and-water solution or a weak detergent solution.

- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically impregnated cloth, read the instructions that came with the cloth carefully.

#### For a cleaner crisper sound

We recommend that you periodically clean parts (the shaded portion in the figure below) the tape contacts like the heads. Do not use any solution other than alcohol for head cleaning.



## 故障检修指南

为本机要求维修前，请检查下列图表，以便找到您所遇到问题的可能原因。您所进行的某些简单检查或最小调整，有可能会解决问题并恢复正常工作。

如果您对某些检查要点有疑问，或图表中指示的修理方法无法解决问题时，请查阅专业维修中心目录(本机附属品)，寻找一便利的维修中心或向经销商咨询以获得指导。

问题	可能原因	建议修理方法	参考页次
<b>整机一般问题</b>			
ECO (节电) 模式开始工作，但显示屏仍点亮。	DEMO(示范)模式处于工作状态。	关闭 DEMO(示范)模式。	23
各种乐器的位置分辨不清。	某个扬声器的(+)和(-)极连接颠倒了。	请正确地连接扬声器接线。	11, 13
左右声音被颠倒。	扬声器的左右连接颠倒了。	请正确地连接扬声器接线。	11, 13
听不见低频声音。	LOW (低频) 扬声器的左或右接线没有连接上。	请将扬声器的左或右接线连接到低频端子上。	11
当欣赏外接机件时，左右声音颠倒。	至外接机件的左右连接颠倒了。	请正确地连接外接机件的接线。	17
播放信号源时，听不见声音。	扬声器的(+)和(-)极接线短路。	使本机处于待机状态，重新连接扬声器接线，使其不短路。然后再打开电源。	11
显示中出现 "ERROR(出错)"。	进行了错误操作。	请依使用说明书，正确地操作本机。	
显示中出现 "----"。	<ul style="list-style-type: none"> <li>第一次插入电源线插头时。</li> <li>最近发生过停电故障。</li> </ul>	设定时间。	25
将显示出 "F61"。	请检查扬声器连线是否有短路。	如果没有短路，则可能是电源有问题，此时请向经销处请求协助。	

<b>收听 FM 广播时</b>			
立体声广播中听见了在单声道广播中听不见的“嗡嗡”声。	离发射台距离太远。	如果您使用室内天线，请改用室外天线。	15
立体声广播时噪音严重，且声音时而消失。	天线安装位置和方向不当。		
立体声指示灯“STEREO”时亮时灭，不能完全点燃。	离发射台距离太远。		
	电视机或录像机的电源打开着。	请关掉电视机或录像机。	
立体声广播中声音高度失真。	附近有房屋或山坡。 [失真是由发射台的信号(直射波)和房屋或山坡(反射波)的反射信号相互干扰所造成的。]	请使用高级室外天线，并将其安装在接收效果良好的位置、高度和朝向上。	15

<b>收听 AM 时</b>			
听见异常的拍音。	您在同时使用本机和电视机。	请关掉电视机或远离电视机使用本机。	
听到低频蜂鸣声。	天线靠近了电源线。	将天线和电源线分开。	

## دليل تجريبي الأعطال وإصلاحها

قبل طلب الخدمة من أجل هذه الوحدة، راجع الجدول التالي للتعرف على السبب المحتمل للمشكلة التي تواجهها. قد تؤدي بعض الفحوصات البسيطة أو الضبط البسيط من جانبك إلى إزالة المشكلة واستعادة التشغيل السليم. إذا كان يساورك شك عن بعض نقاط الفحص أو إذا لم تحقق العلاجات المبينة في الجدول حلاً للمشكلة، إرجع إلى دليل مراكز الخدمة المعتمدة (مرفق مع الوحدة) لتحديد مركز خدمة ملائم، أو استشر الوكيل القريب منك من أجل الإرشادات.

المشكلة	السبب (الأسباب) المحتمل	العلاج المقترح	صفحة المراجعة
---------	-------------------------	----------------	---------------

مشاكل تعم كافة الأنظمة			
الوضع ECO في وضع التشغيل لكن لوحة المعارضة لا تزال مضيئة.	الوضع DEMO في وضع التشغيل.	أدر الوضع DEMO إلى وضع القفل.	٢٢
مواقع الآلات الموسيقية المختلفة غير محددة بصورة جيدة.	إنعكاس التوصيلات (+) و (-) لأحدى السماعات.	أوصل كابلات السماعة بصورة صحيحة.	١٣ . ١١
إنعكاس الأصوات اليمنى واليسرى.	إنعكاس التوصيلات اليمنى واليسرى للسماعات.	أوصل كابلات السماعات بصورة صحيحة.	١٣ . ١١
لا يمكن سماع أصوات الترددات الخفيفة.	كبل سماعة الترددات الخفيفة LOW اليسرى أو اليمنى غير موصل.	قم بتوصيل كبلات سماعة الترددات الخفيفة اليسرى واليمنى إلى أطراف التوصيل LOW.	١١
إنعكاس الأصوات اليمنى واليسرى عند الاستماع إلى جهاز خارجي.	إنعكاس التوصيلات اليمنى واليسرى للجهاز الخارجي.	أوصل كابل الجهاز الخارجي بصورة صحيحة.	١٧
عدم انطلاق الصوت عند تشغيل المصدر.	قصور الأسلاك (+) و (-) لكابلات السماعة.	رحل الجهاز إلى حالة الإنتظار وأعد توصيل كابلات السماعة من دون قصرها ثم أوصل القوة.	١١
ظهور كلمة "ERROR" على المعارضة.	تم القيام بتشغيل خاطئ.	شغل الجهاز بصورة صحيحة بإتباع إرشادات التشغيل.	
ظهور التاشيرة "----" على المعارضة.	• قيس كابل القوة لأول مرة. • انقطعت القوة في الآونة الأخيرة.	اضبط الوقت.	٢٥
يظهر "F61" على المعارضة.	راجع ما إذا كانت أسلاك السماعة متماسة.	إذا لم تكن متماسة إذن توجد هناك مشكلة في مورد القدرة. إستشر الوكيل القريب من أجل المساعدة.	

خلال الاستماع إلى بث الألف أم			
وجود "ضوضاء هادئة" خلال البث الاستريوي لا تسمع خلال البث الأحادي.	بعد محطة البث.	إذا كنت مستخدماً لهوائي داخلي، فاستبدله بأخر خارجي.	١٥
وجود "ضوضاء متكاثرة" خلال البث الاستريوي واختفاء الصوت أحياناً.	عدم تلائم موقع النصب والإتجاه للهوائي.		
تورق، تاشيرة الاستريو وعدم توهجها كلياً.	بعد محطة البث.		
	توصيل القوة للتلفزيون أو المسجل الفيديوي.	حاول قطع القوة عن التلفزيون أو المسجل الفيديوي.	
تشوه الصوت بصورة عالية خلال البث الاستريوي.	وجود بناءة أو جيل بالقرب، إتسبب التشوه عن القداخل ما بين الإشارة الواردة من محطة الإرسال (الموجة المباشرة) والإشارة المنعكسة من البناءة أو الجبل (الموجة المنعكسة).	إستخدم هوائي خارجي ذو كفاءة عالية، وإنصبه في مكان وعلى إرتفاع وإتجاه جيد للإستقبال.	١٥

خلال الاستماع إلى بث الألف أم			
سماع صوت تضاربي غريب.	إستخدام الجهاز وتشغيل التلفزيون في نفس الوقت.	إقطع القوة عن التلفزيون أو إستخدام الجهاز بعيداً عنه.	
سماع همهمة ذات تردد منخفض.	إقترب سلك الهوائي من كابل القوة.	باعد ما بين سلك الهوائي وكابل القوة.	

## Technical specifications

### AMPLIFIER SECTION

Front speaker	
Power output	
PMPO	2200 W
RMS power output	
THD (at 1 kHz) 10%, both channels driven	
	105 W per channel (8Ω)
Power output in	
Dolby Pro Logic mode	
PMPO	Total 3300 W
RMS power output	
THD (at 1 kHz) 10% both channels driven	
	Total 390 W
Front	105 W per channel (8Ω)
Center	90 W per channel (8Ω)
Surround	45 W per channel (8Ω)
Input sensitivity	
AUX	250 mV
MIC	0.7 mV
Input impedance	
AUX	10 kΩ
MIC	600Ω

### FM TUNER SECTION

Frequency range	87.50–108.00 MHz (50 kHz steps)
Sensitivity	1.8 μV (IHF)
S/N 26 dB	1.5 μV
Antenna terminal(s)	75Ω (unbalanced)

### AM TUNER SECTION

Frequency range	522–1629 kHz (9 kHz steps)
	520–1630 kHz (10 kHz steps)
Sensitivity	
S/N 20 dB	500 μV/m

### CASSETTE DECK SECTION

Track system	4 track, 2 channel
Heads	
Record/playback	Solid permalloy head
Erase	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias 100 kHz
Erasing system	AC erase 100 kHz
Tape speed	4.8 cm/s
Overall frequency response	
(+3, –6 dB at DECK OUT)	
NORMAL (TYPE I)	35 Hz–14 kHz
HIGH (TYPE II)	35 Hz–14 kHz
S/N	
Dolby NR off	50 dB (A_WTD)
Dolby NR on	60 dB (CCIR)
Wow and flutter	0.18% (WRMS)
Fast forward and rewind times	
	Approx. 120 seconds with C-60 cassette tape

### CD SECTION

Sampling frequency	44.1 kHz
Decoding	16 bit linear
Frequency response	20 Hz–20 kHz (+1, –2 dB)
Wow and flutter	Below measurable limit
Digital filter	8 fs
D/A converter	MASH (1 bit DAC)

### SPEAKER SECTION

#### Front speakers (SB-AK57)

Type	4 way speaker system
Speaker(s)	
Super woofer	17 cm cone type
Woofer	12 cm cone type
Midrange	6 cm ring shaped dome type
Tweeter	Piezo type
Impedance	Total 6Ω
Input power	Total 160 W (Music)
Output sound pressure level	84 dB/W (1.0 m)
Cross over frequency	200 Hz, 3.5 kHz
Frequency range	45 Hz–40 kHz (–16 dB)
	55 Hz–36 kHz (–10 dB)
Dimensions (W×H×D)	250×330×307mm
Weight	5.0 kg

#### Surround speakers (SB-PS70)

Type	1 way, 1 speaker
Speaker	
Full range	8 cm cone type
Impedance	8Ω
Input power	60 W (Music)
Output sound pressure level	84 dB/W (1.0 m)
Frequency range	120 Hz–20 kHz (–16 dB)
Dimensions (W×H×D)	170×106×118 mm
Weight	0.9 kg

#### Center speaker (SB-PC70)

Type	2 way, 2 speaker
Speaker	
Woofer	10 cm cone type
Tweeter	6 cm cone type
Impedance	8Ω
Input power	120 W (Music)
Output sound pressure level	85 dB/W (1.0m)
Cross over frequency	4 kHz
Frequency range	75 Hz–22 kHz (–16 dB)
Dimensions (W×H×D)	250×121×147 mm
Weight	1.6 kg

### GENERAL

Power supply	AC 110 V/127 V/220 V/230–240 V, 50/60 Hz
Power consumption	184 W
Standby	
Normal mode	13 W
ECO mode	1 W
Dimensions (W×H×D)	270×331×338 mm
Weight	8.6 kg

#### Note:

- Specifications are subject to change without notice.
- Weight and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer.

## قسم المصنم

الساعة الامامية

خرج القدرة

PMPO

خرج القدرة RMS

شويه توافقى كلي (عند ١ كيلوهرتز) ١٠٪، كلا القناتين  
مدارة ١٠٥ واط لكل قناة (٦ أوم)

خرج القدرة في

وضع دولبي برو لوجيك

PMPO

خرج القدرة RMS

شويه توافقى كلي (عند ١ كيلوهرتز) ١٠٪، كلا القناتين  
مدارة ١٠٥ واط لكل قناة (٦ أوم)

امامية

وسطية

صوت فراغى منتشر

حساسية الدخل

وحدات اضافية AUX

الميكروفون MIC

معاوقة الدخل

وحدات اضافية AUX

الميكروفون MIC

## قسم الموالف إف إم

مدى التردد

٨٧.٥ - ١٠٨.٠٠ ميغاهرتز (مراحل ٥٠ كيلوهرتز)  
المناسبة ١٠.٨ ميكروفولت (١١٢)

الإشارة/التشويش ٢٦ ديسيبل ١٠.٥ ميكروفولت  
طرف (اطراف) الهوائى ٧٥ أوم (غير متوازن)

## قسم الموالف آى إم

مدى التردد

٥٢٢ - ١٦٢٩ كيلوهرتز (مراحل ٩ كيلوهرتز)  
٥٢٠ - ١٦٢٠ كيلوهرتز (مراحل ١٠ كيلوهرتز)

المناسبة

الإشارة/التشويش ٢٠ ديسيبل ٥٠٠ ميكروفولت/م

## قسم دك أشربة الكاسيت

نظام المسار

٤ مسارات، قناتان

الرؤوس

التسجيل/إعادة الإستماع

رأس برمالي صلد

رأس المحو

موتور مؤازر تيار مستمر

نظام التسجيل

إنحياز تيار متردد ١٠٠ كيلو هرتز

نظام المحو

محو تيار متردد ١٠٠ كيلو هرتز

سرعة الشريط

٤.٨ سم/ثانية

إستجابة التردد الكلي

(٣٠ - ٦٠ ديسيبل عند DECK OUT)

عادي (النوع ١)

٢٥ هرتز - ١٤ كيلوهرتز

عالي (النوع ٢)

٢٥ هرتز - ١٤ كيلوهرتز

الإشارة/التشويش

قفل دولبي لتقليل الضجيج ٥٠ ديسيبل (A-WTD)

تشغيل دولبي لتقليل الضجيج ٦٠ ديسيبل (CCIR)

التفاوت والارتعاش ١٨٪ (WRMS)

أوقات التقديم السريع والتريجي

حوالي ١٢٠ ثانية مع شريط الكاسيت C-60

## قسم الالسطوانات الهدمجة

تردد إختيار الصينات

٤٤.١ كيلوهرتز

تفسير الشفرة

١٦ بت خطي

إستجابة التردد

٢٠ هرتز - ٢٠ كيلوهرتز (١٠ - ٢٠ ديسيبل)

التفاوت والارتعاش أدنى من الحد الذي يمكن قياسه

المرشح الرقمي

٨ fs

المحول D/A

MASH (١ بت DAC)

## نظام السماعات

السماعات الامامية (SB-AK57)

النوع

نظام سماعات ٤ إتجاهات

السماعة (السماعات)

سماعة الترددات الخفيضة العائقة

سماعة الترددات الخفيضة

١٧ سم نوع مخروطي

سماعة الترددات المتوسطة

١٢ سم نوع مخروطي

سماعة الترددات العالية

٦ سم نوع حلقي الشكل مقب

المعاوقة

قوة الدخل

مستوى ضغط صوت الخرج

٨٤ ديسيبل/واط (١٠٠ متر)

التردد المبرقي

٢٠٠ هرتز، ٢٠.٥ كيلوهرتز

مدى التردد

٤٥ هرتز - ٤٠ كيلوهرتز (١٦ ديسيبل)

٥٥ هرتز - ٢٦ كيلوهرتز (١٠ ديسيبل)

الأبعاد (عرض × ارتفاع × عمق)

٢٥٠ × ٢٢٠ × ٣٠.٧ مم

الوزن ٥.٠ كغم

سماعات الصوت الفراغى المنتشر (SB-PS70)

النوع

إتجاه واحد، سماعة واحدة

السماعة

مدى كامل

٨ سم نوع مخروطي

المعاوقة

٨ أوم

قدرة الدخل

٦٠ واط (موسيقى)

مستوى ضغط صوت الخرج

٨٤ ديسيبل/واط (١٠٠ متر)

مدى التردد

١٢٠ هرتز - ٢٠ كيلوهرتز (١٦ ديسيبل)

الأبعاد (عرض × ارتفاع × عمق)

١٧٠ × ١٠.٦ × ١١٨ مم

الوزن ٠.٩ كغم

السماعة الوسطية (SB-PC70)

النوع

إتجاهان، سماعتان

السماعة

سماعة الترددات الخفيضة

١٠ سم نوع مخروطي

سماعة الترددات العالية

٦ سم نوع مخروطي

المعاوقة

إجمالي ٨ أوم

قدرة الدخل

١٢٠ واط (موسيقى)

مستوى ضغط صوت الخرج

٨٥ ديسيبل/واط (١٠٠ متر)

التردد المبرقي

٤ كيلوهرتز

مدى التردد

٧٥ هرتز - ٢٢ كيلوهرتز (١٦ ديسيبل)

الأبعاد (عرض × ارتفاع × عمق)

٢٥٠ × ١٢١ × ١٤٧ مم

الوزن ١.٦ كغم

عامة

مورد القدرة

تيار متردد ١٠ فولت/١٢٧ فولت/٢٢٠ فولت/٢٤٠ - ٢٢٠

فولت، ٦٠/٥٠ هرتز

إستهلاك القدرة

١٨٤ واط

الاستعداد

الوضع العادي

١٢ واط

وضع الاقتصاد ECO

١ واط

الأبعاد (عرض × ارتفاع × عمق)

٢٧٠ × ٢٢١ × ٢٢٨ مم

الوزن ٨.٦ كغم

ملاحظات :

١. المواصفات الهندسية عرضة للتغيير من دون إشعار

مسبق.

٢. تم قياس مجموع التشوه التوافقي بمحل رقمي طيفي.